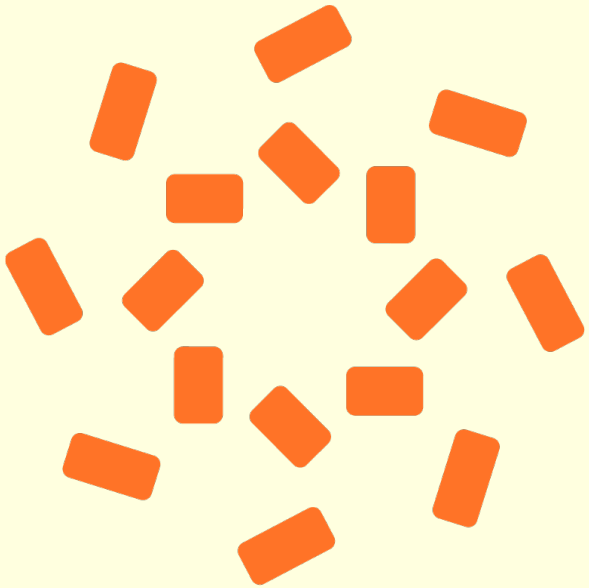


Sparked

HL7 FHIR

Sparked Clinical Content Design Group

Wednesday 27 September Workshop

Sydney

Acknowledgement of Country

We acknowledge the Traditional Custodians of the land on which we all gather today.

We pay our respect to elders past, present, and emerging and extend our respect to all Aboriginal and/or Torres Strait Islander people, acknowledging the First Peoples as the first scientists, educators and healers.

Agenda

Time	Item	Item	Time	Lead/facilitator
9.00am	1	Welcome •Intro to Sparked •Who's who in the room •Objectives	20mins	Kate Ebrill Chris Moy
9.20am	2	DOHAC update	10mins	Jeremy Sullivan
9.30am	3	Where have we come from •Primary care data quality foundation •Detailed Clinical Models •What's happening globally •Pan Canadian Data Framework •PRSB and Portable Care Record •US CDI	45mins	Kate Ebrill Heather Leslie
10.15am		Morning tea	30min	
10.45am	4	Why a common data model •Clinical vision •Industry vision •Local reporting data vision •National reporting data vision	1.5hr (20min each)	Rob Hosking, Jo Wright Marvin Malcolm, Danielle Bancroft Nick McGhie AIHW representative
12.15pm		Lunch		
1.00pm	5	What are the priorities (group activity) •Use cases and priorities •Scope moving forward	90min (45min each)	Kate Ebrill
2.30pm		Afternoon tea	30min	
3.00pm	6	How are we going to deliver (group activity) •Community approach •Design principles	60 min	Kate Ebrill
4.00pm	7	Reflections from the day Wrap up and next steps	30min	Kate Ebrill
4.30pm		Close		

Sparked
HL7 FHIR

Objectives for today

- Understand the Sparked Program
- Understand how Sparked aligns with other International activity
- Understand how Sparked is leveraging other previous and current activity
- Inform the scope and priorities of the Sparked deliverables
- Agree our principles and ways of working
- Understand how you can participate in Sparked ongoing
- Identify how we can engage others beyond this group in Sparked

Introductions – who’s who in the room!

Activity done in workshop

Mentimeter

Which city or town are you from?
67 responses

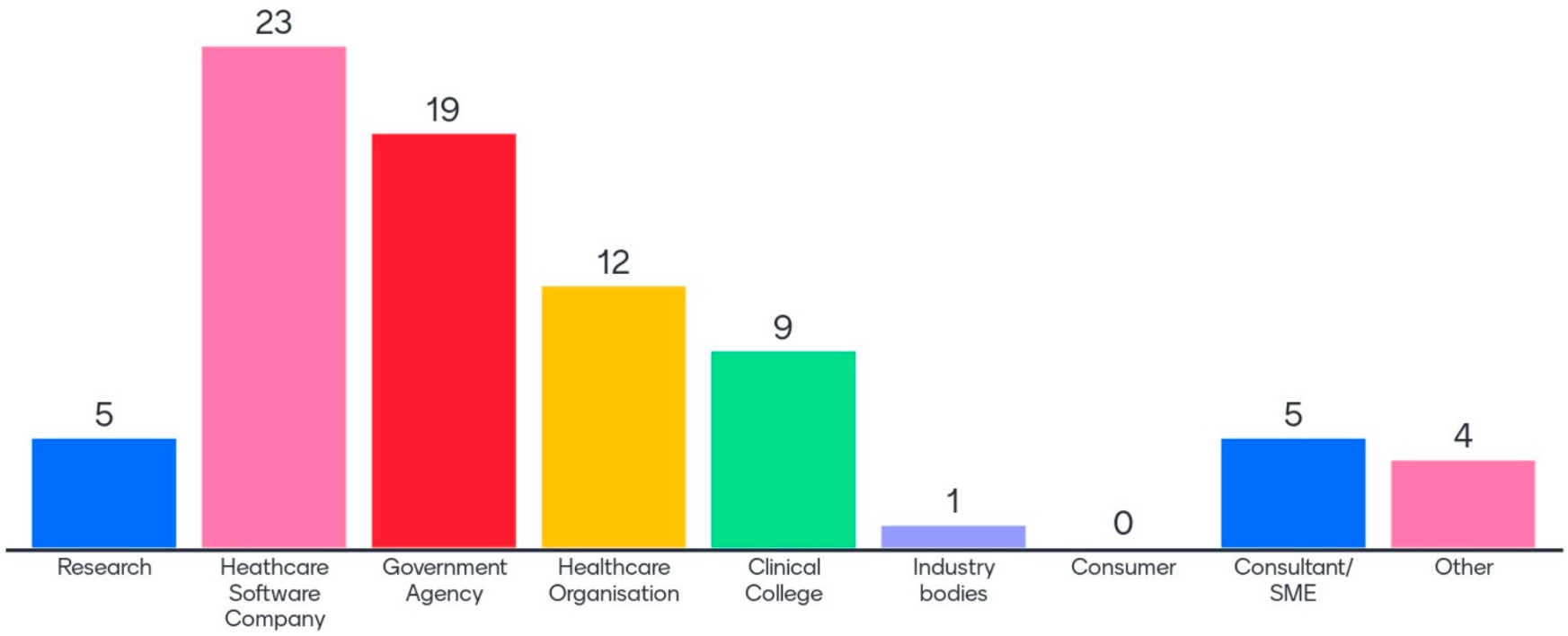
67

Sparked HL7 FHIR

Activity done in workshop

Mentimeter

What kind of organisation are you from?



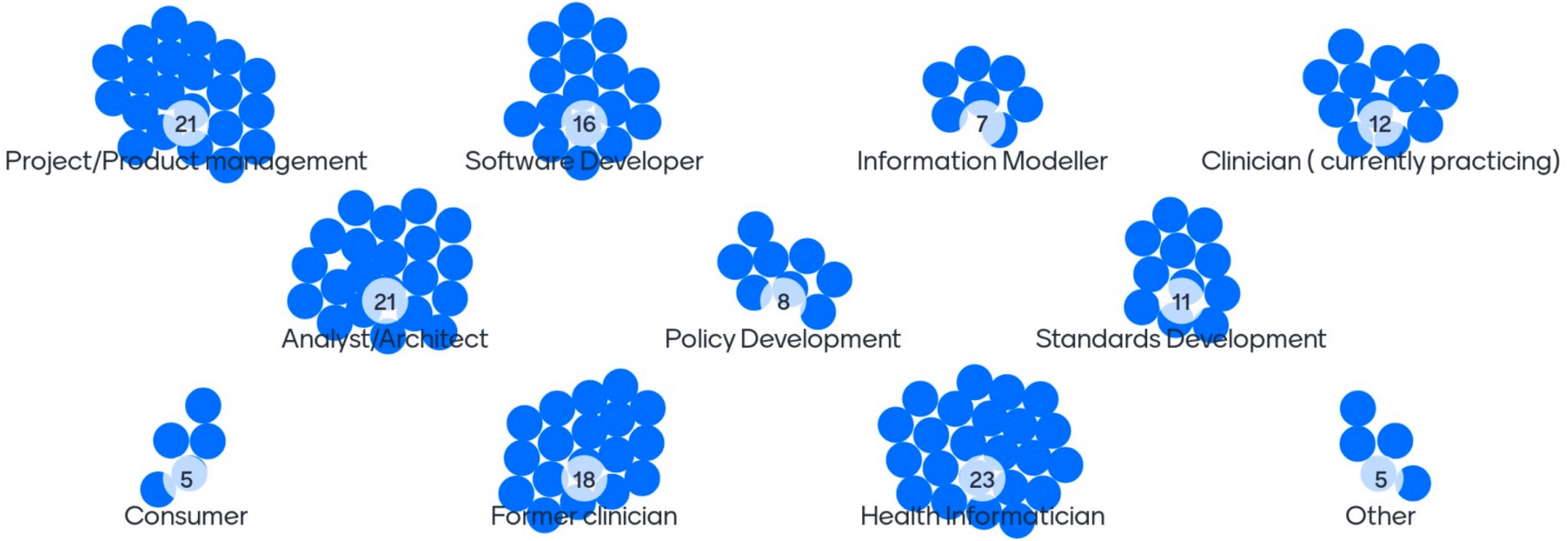
69

Sparked HL7 FHIR

Activity done in workshop

Mentimeter

What is your role/background



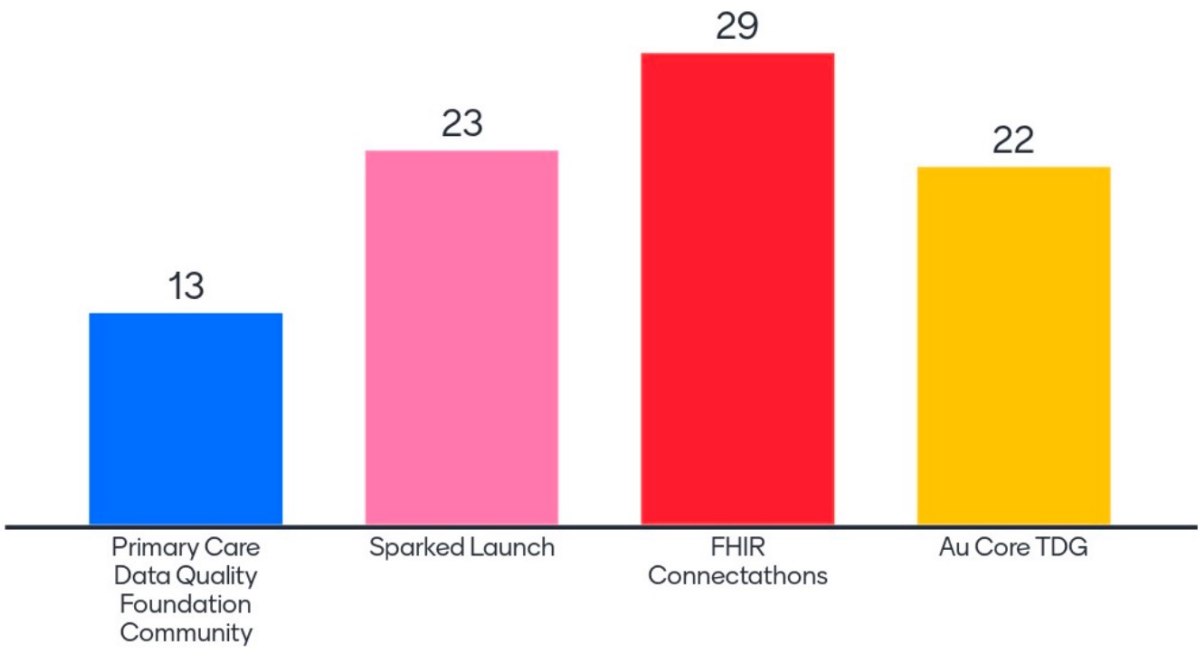
69

Sparked HL7 FHIR

Activity done in workshop

Mentimeter

Have you attended /participated in...



Sparked HL7 FHIR

43

Activity done in workshop

Mentimeter

Your objective for today?

70 responses

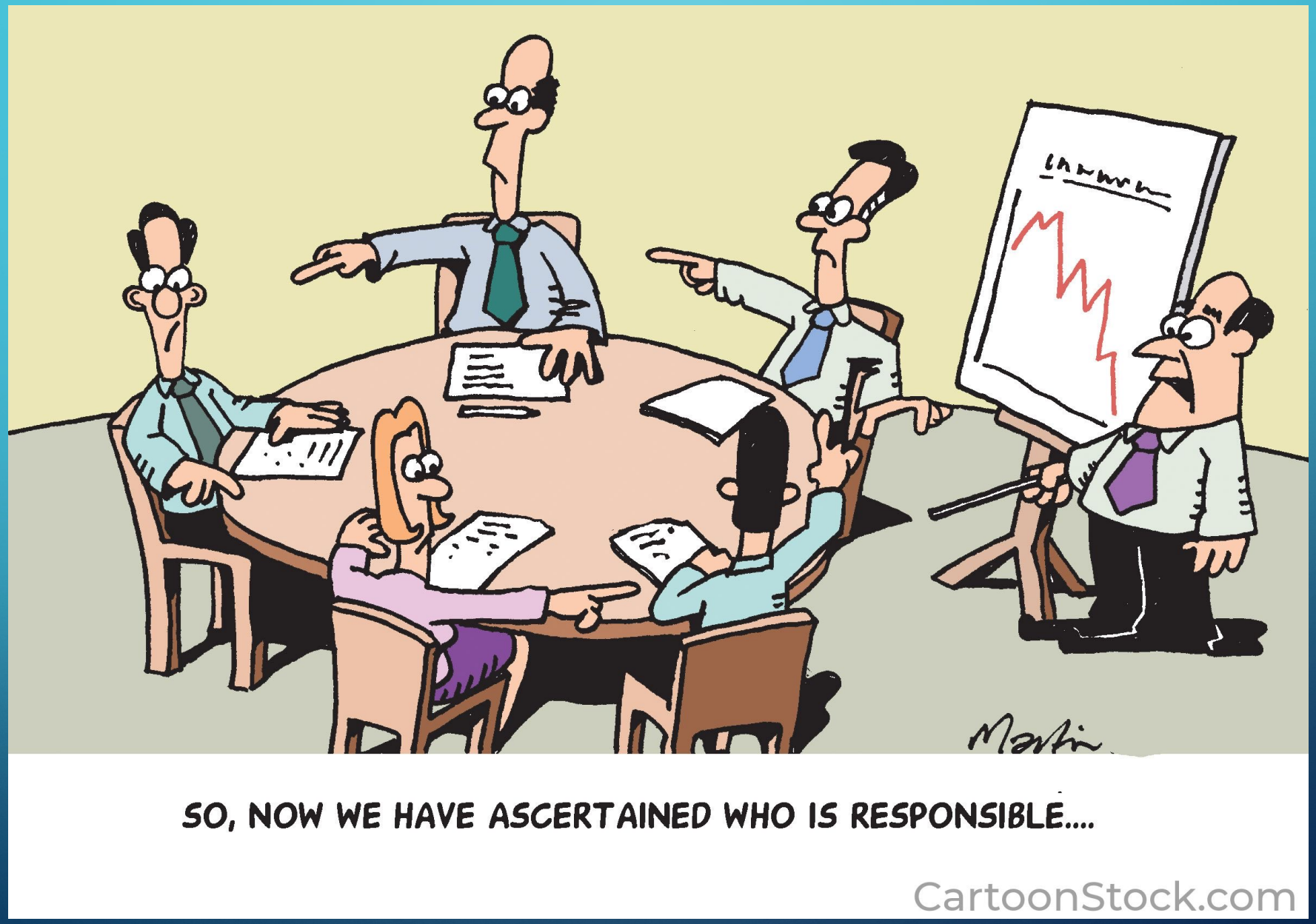
13 70

Sparked HL7 FHIR

SOME OPENING THOUGHTS

DR CHRIS MOY

Examples of Black Swan Events


SO, NOW WE HAVE ASCERTAINED WHO IS RESPONSIBLE....
CartoonStock.com

“You never want a serious crisis to go to waste. And what I mean by that is an opportunity to do things that you think you could not do before.”

— Rahm Emanuel


crest
MAXIMUM TOTAL LOAD
10A 2400W


Baseus
Type C Port
100W PD
4K HD
TF
SD
RJ45
USB3.0
8 IN 1


MINDSET
IS EVERYTHING

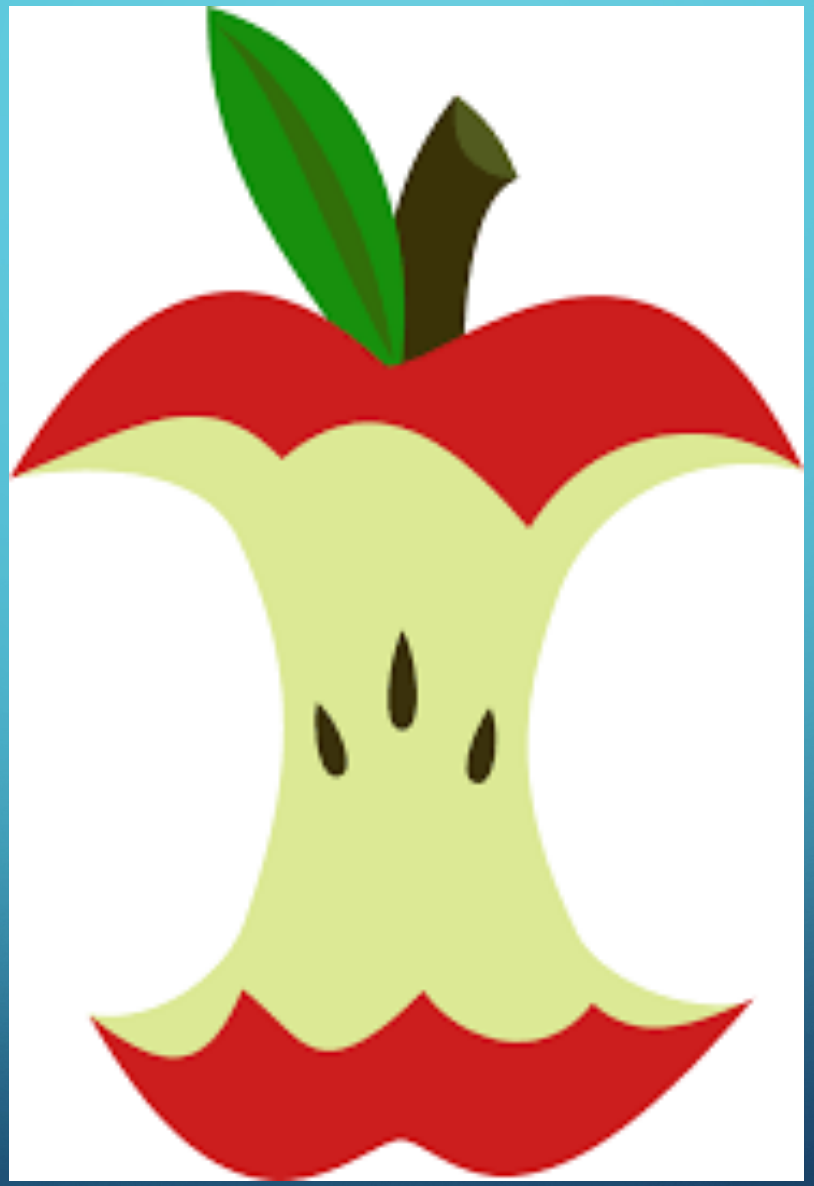
If you put enough smart people together in one space, good things happen.

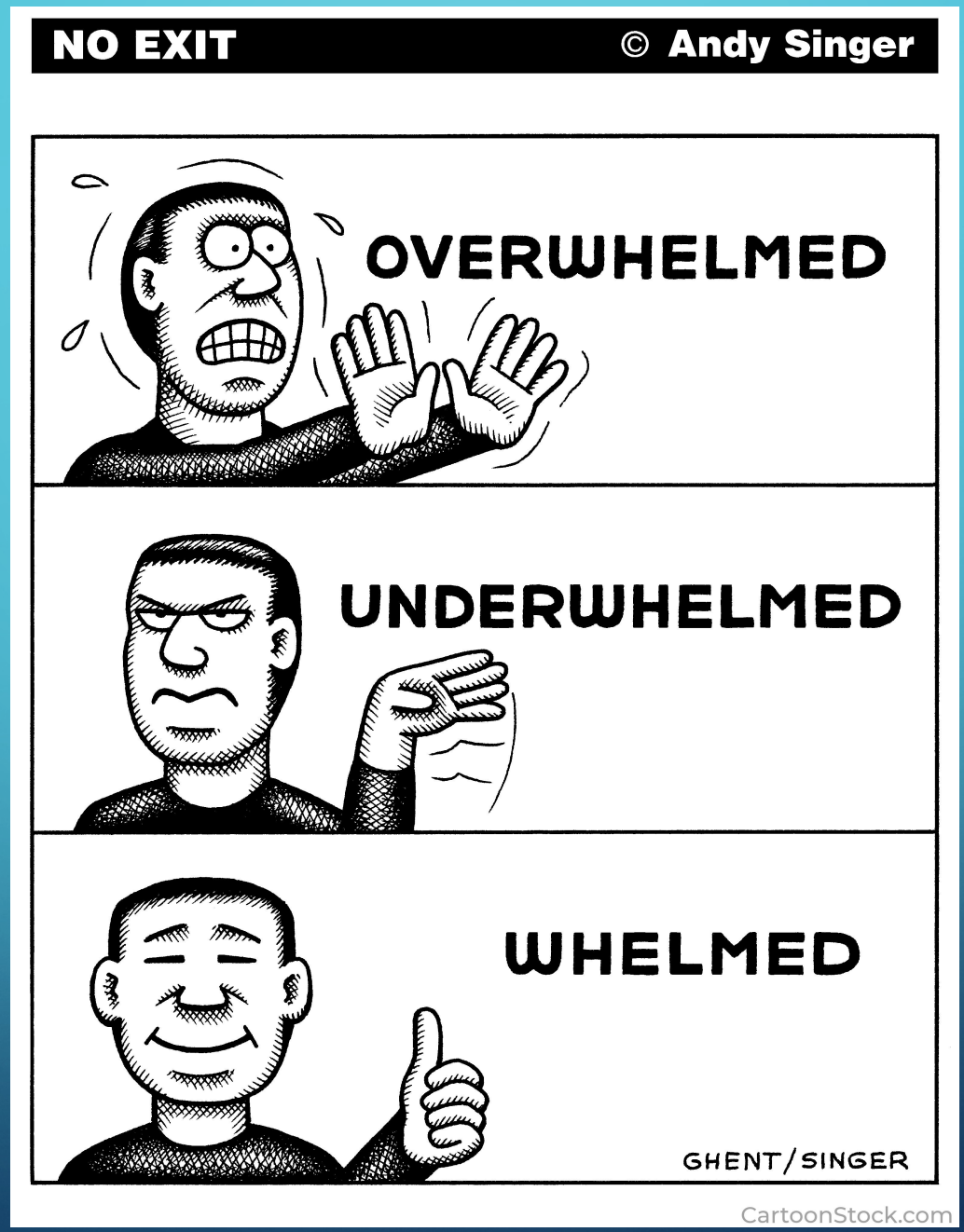
- **Erik Hersman**

“A mountain is climbed on step at a time”

- Unknown


THIS IS TOO
MUCH

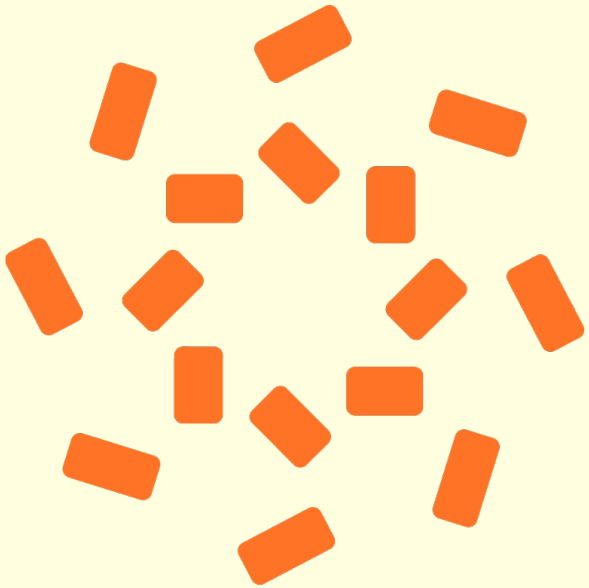



NO EXIT
© Andy Singer
OVERWHELMED
UNDERWHELMED
WHELMED
GHENT/SINGER
CartoonStock.com

SOME RULES FOR TODAY

- If propose something……..must be able to justify… WHY?
- If criticism……must have a SOLUTION
- It's about DATA QUALITY!!!!

Why Sparked – DOHAC perspective



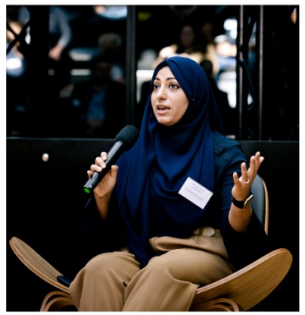
Sparked

HL7® FHIR®

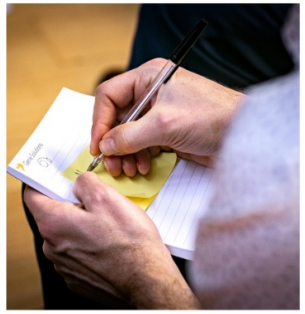

CSIRO
GREATEST HITS TOUR
AUSSIE INVENTIONS FOR THE WORLD
1953
1961
1984
1986
1988
1992
1996
1998
2001
2007
2009
2012
2013

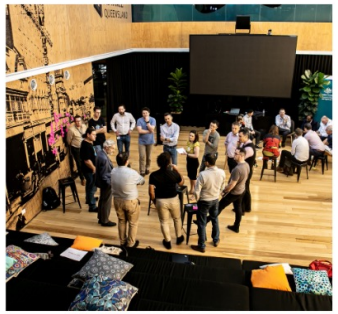




Acknowledgment



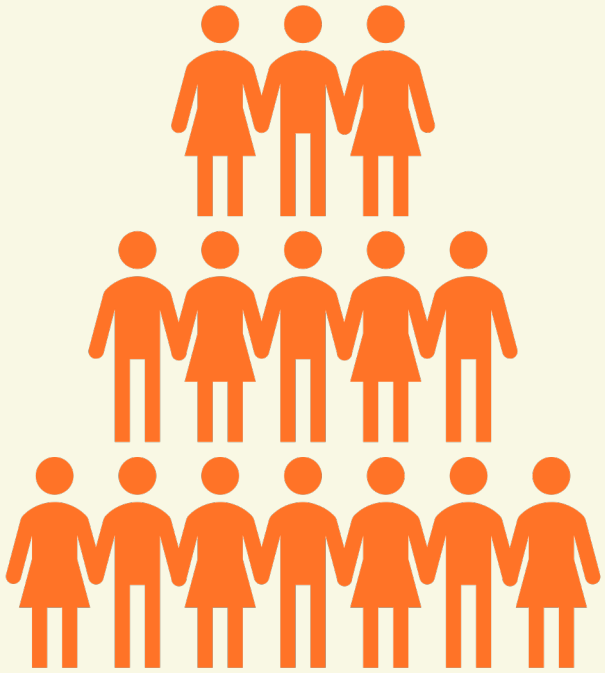


got FHIR questions?
ask me
>_
hi@beda.software

What is Sparked?

Sparked is a **community** comprising **government, technology vendors, provider organisations, peak bodies, practitioners, and domain experts** to **accelerate the creation of common data models, definition of value sets and use of national FHIR standards** in health care information exchange.

Sparked is will be delivered by CSIRO, supported through a partnership of HL7 Australia, Department of Health and Aged Care, Australian Digital Health Agency, and CSIRO.



We are:

- ✓ Building a community to create open standards in high priority national use cases
- ✓ Government initiated and funded
- ✓ Working collaboratively with the international FHIR community, and other FHIR initiatives

Why PCDQF?

There were no agreed common data sets or specifications for information exchange within Australia

Data Standards

- RANZCR & RCPA
- RACGP
- AIHW etc

Federal and State Health Departments

- Data requirements to support reporting
- Local integrated care programs
- National Min Data Sets

Multiple Software vendors

- Different labels for fields
- Different terminologies

Multiple data extract providers

Australian Digital Health Agency

- My Health Record (Event Summary and Shared Health Summary)
- Detailed Clinical Models (DCMs)

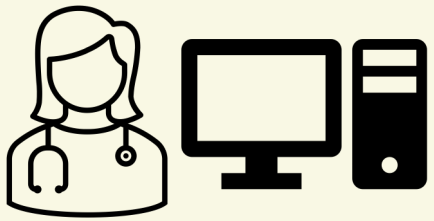
Overlapping data requirements

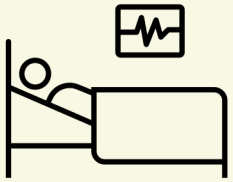
An opportunity for harmonisation and alignment

Why – Seamless exchange but also Single Provision Multiple Use/Reuse

Improves clinician experience

- re use of data over different use cases
- better user interface





Enables exchange of data with meaning between clinical systems

Triggers standardised knowledge related activities such as common decision support tools across systems, rather than a unique one per project or implementation

Provides a ready-made library of information models, value sets that can fast-track the development of new clinical systems, applications or projects.

Supports interrogation of data sets using standardised queries, resulting in consistent data results

Supports safer and more accurate extracts, aggregation and analysis of primary care data (assuming appropriate privacy, consent and authorisation)

Reduces effort for practices, clinicians and software industry

Sparked
HL7 FHIR

Gaps in the current ecosystem - Why

Strong Foundations – a lot of work has been done!

What's missing?

- Accelerated development of FHIR specifications

1. Co-ordination

- Building community process
- Diversity in community
- Vision & roadmap

2. Development

- Clinical Co-design and Governance
- Supporting an open standards development process

3. Enabling Implementation

- Tooling to build, deploy and test FHIR specifications
- Implementation Guides

What's needed?

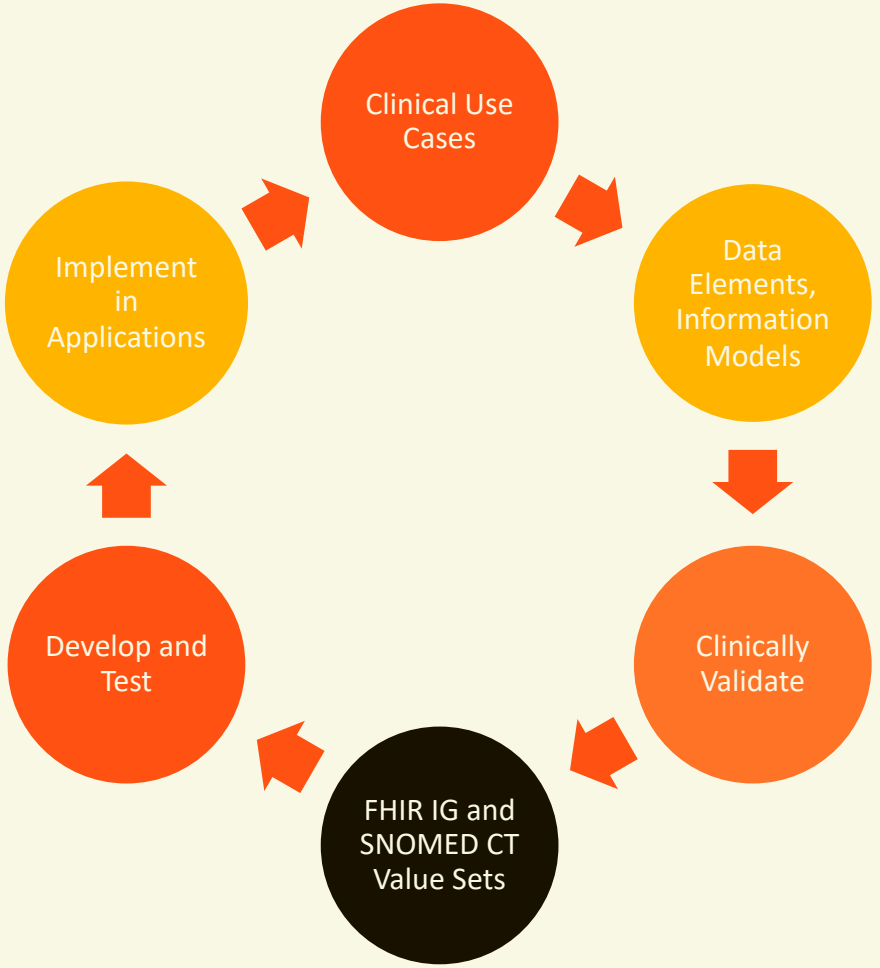
- A community led approach, no entity/jurisdiction can do this alone
- Lifecycle and operations management
- Must be repeatable, reusable and scalable
- Prioritisation and roadmap for implementation
- Must have clinical governance and co-design

Approach to delivery

Open and transparent

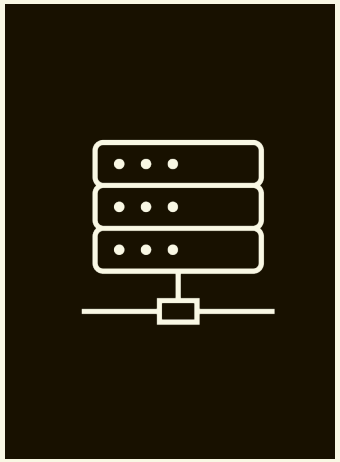
Consensus driven

Agile and iterative



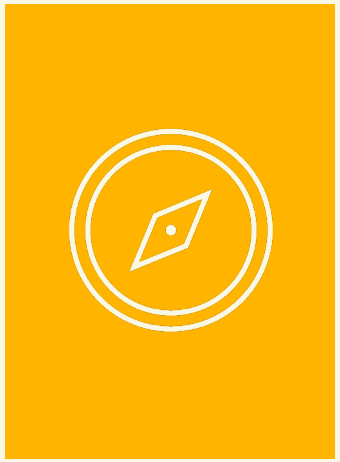
Sparked HL7 FHIR

AU FHIR Accelerator Scope



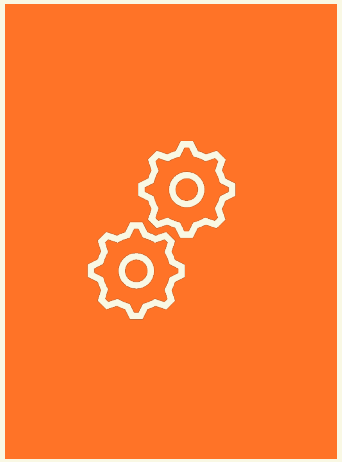
AU Core Data Set for Interoperability (AUCDI)

- AU Core
- AU eRequesting



FHIR Implementation Guides

- AU Core
- AU eRequesting



Piloting of FHIR Standards

- Piloting of FHIR Standards, supported by infrastructure & tooling

Reference Implementations

- Services that support implementation and testing of FHIR based applications

Clinical Terminology Value Sets

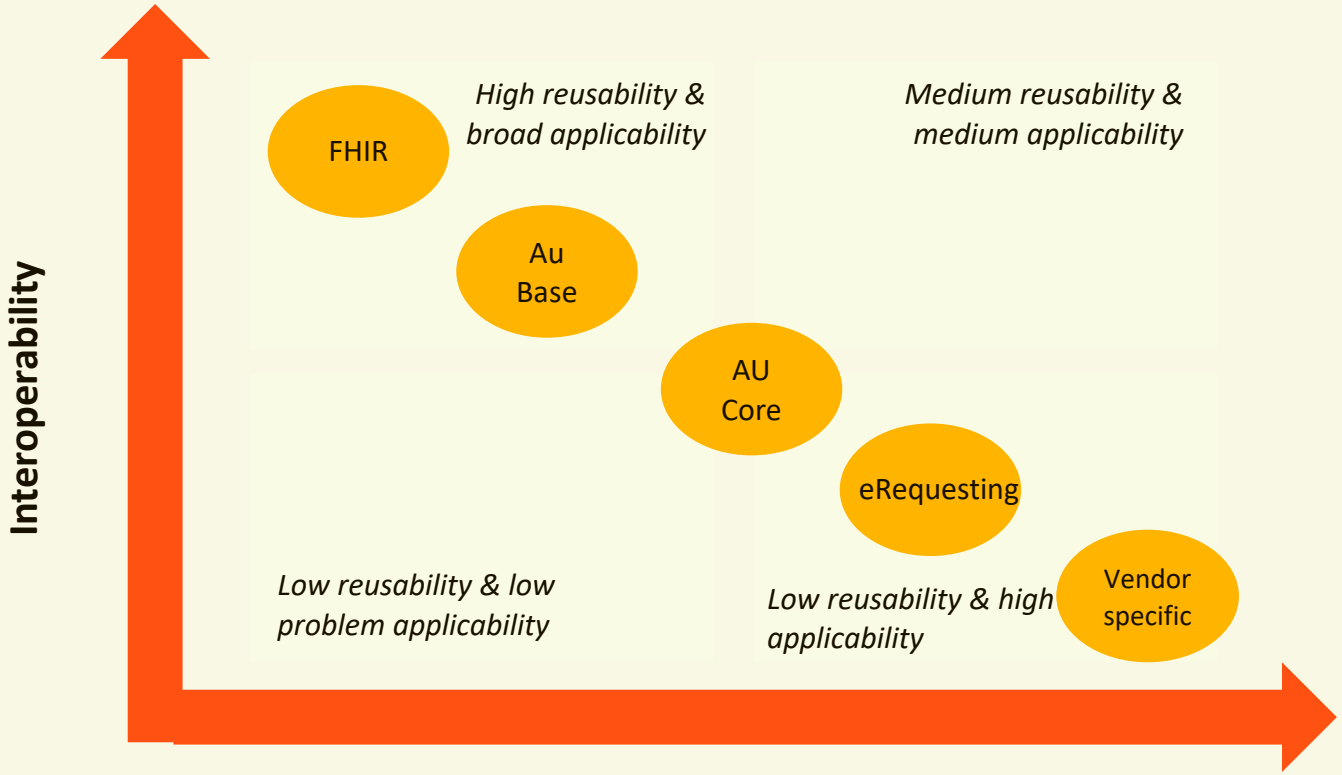
- SNOMED CT and LOINC Value sets
- RANZCR
- RCPA

Sparked HL7 FHIR

FHIR Accelerator Benefits

AU Core R1 FHIR Implementation Guide & AU Core Data Set

AU Core R1 FHIR IG - Delivers 80% of common health transactions and describes the 'How' of data exchange



- AU Core R1 FHIR IG is utilised in most health service exchanges
- Other FHIR IG's will use AU Core R1 FHIR IG as well as their specific domain extensions e.g. eRequesting R1 FHIR IG

AUCDI

- focuses on core data required for patient data access and patient care (clinical data entry, clinical data use, data exchange and data reporting)
- is “content exchange standard agnostic”.

Sparked HL7 FHIR

AU Core FHIR Implementation Guide

- Implementable standard for FHIR based interfaces for provider and patient information systems in Australia
- Standardise exchange of core clinical information through FHIR Implementation Guide
- Data model and RESTful API interactions that set minimum expectations for a system to record, update, search, and retrieve core digital health and administrative information associated with a patient
- Useful in many interactions, easy to implement, supports use case specialisation for clinical workflows without requiring redevelopment of the core

Product

AU Core FHIR Implementation Guides R1 for Trial Use*

About FHIR AU Core

- Implementable standard for FHIR based interfaces for provider and patient information systems in Australia
- Exchange standard for AU CDI
  (common data model)
- Data model and RESTful API interactions that set minimum expectations for a system to record, update, search, and retrieve core digital health and administrative information associated with a patient
- Useful in many interactions, easy to implement, supports use case specialisation for clinical workflows without requiring redevelopment of the core


allergies


immunisations


medications


prescriptions


problems


procedures


diagnostic results


vital signs


social determinants of health


encounters


patients


providers

Sparked
HL7 FHIR

About FHIR AU Core

- Applications that conform to AU Core can access the following information about the patient from a system that conforms to AU Core:
  - Basic patient details
  - Problems / Conditions
  - Medication orders, dispense, administration and usage
  - Immunization history
  - Allergies and intolerances
  - Diagnostic orders, report, and results
  - Vital signs, and other clinical observations
  - Clinical notes & other patient documents


allergies


immunisations


medications


prescriptions


problems


procedures


diagnostic results


vital signs


social determinants of health

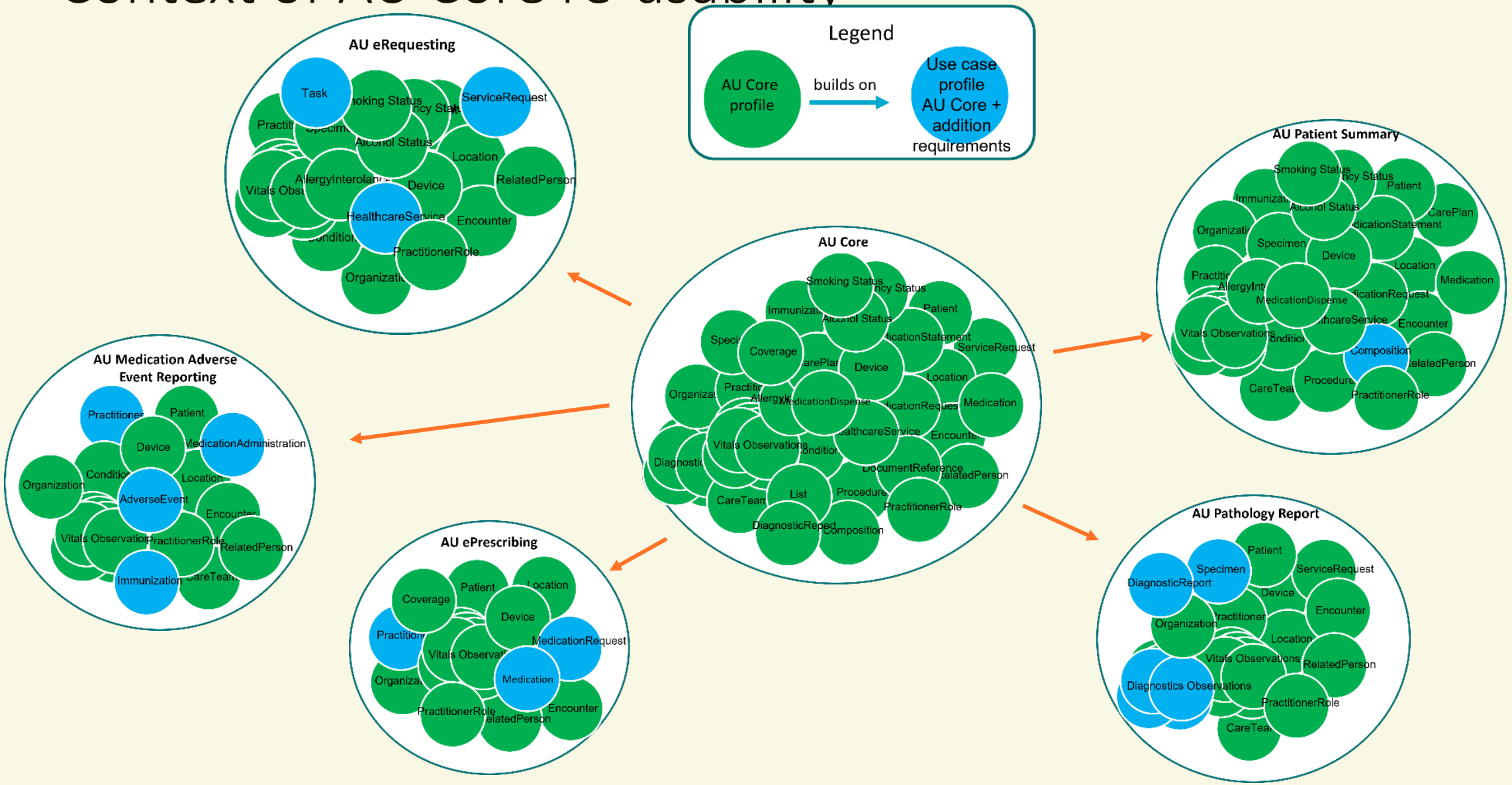

encounters


patients


providers

Sparked
HL7 FHIR

Context of AU Core re-usability



AU CDI and AU eRequest CDI – Data foundation for interoperability

- A standardised set of health data items and constituent data elements
- focuses on core data required for patient data access and patient care (clinical data entry, clinical data use, data exchange and data reporting)
- data items represent individual concepts: medication, allergy, procedure, health concern, service request etc.
- some data elements should be expressed using specific health IT vocabulary/terminology standards e.g. SNOMED CT, LOINC etc
- is “content exchange standard agnostic”. AU Core Data Set doesn’t specify how and to what extent its elements are included in FHIR or other exchange standards

Product

AU -CDI

Clinical Content Design Group

The Design Group will:

- Validate and define the data elements of the Australian Core Data Set (AUCDI) and eRequest CDI against the agreed use cases
- Validate the value sets required for the AUCDI and FHIR Implementation Guides
- Provide clinical requirements into the development and validation of the Core AU and eRequesting FHIR Implementation Guide

Membership

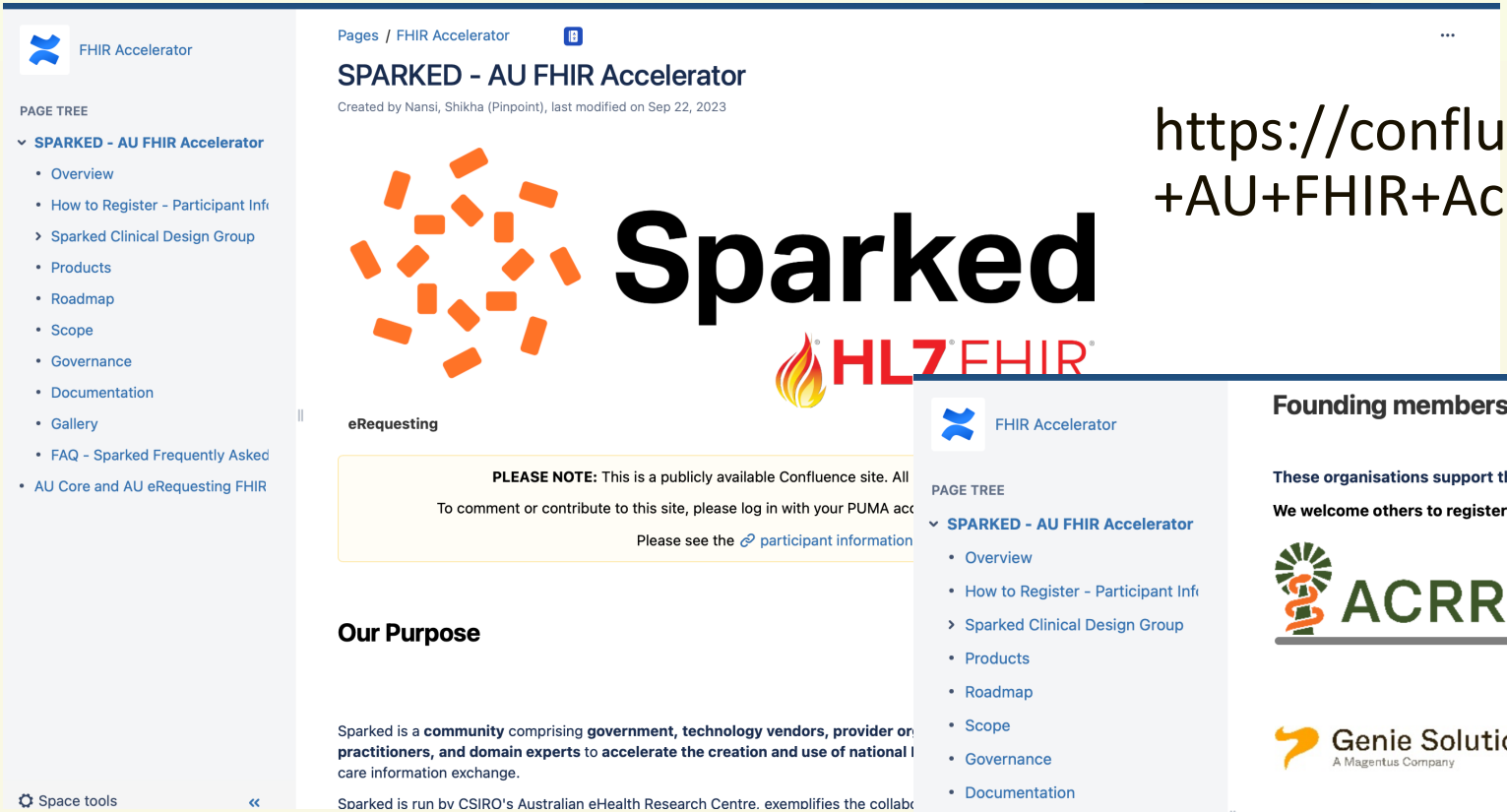
- The design group is open for any interested software developer, clinician, or domain expert to participate.

Co-Leads

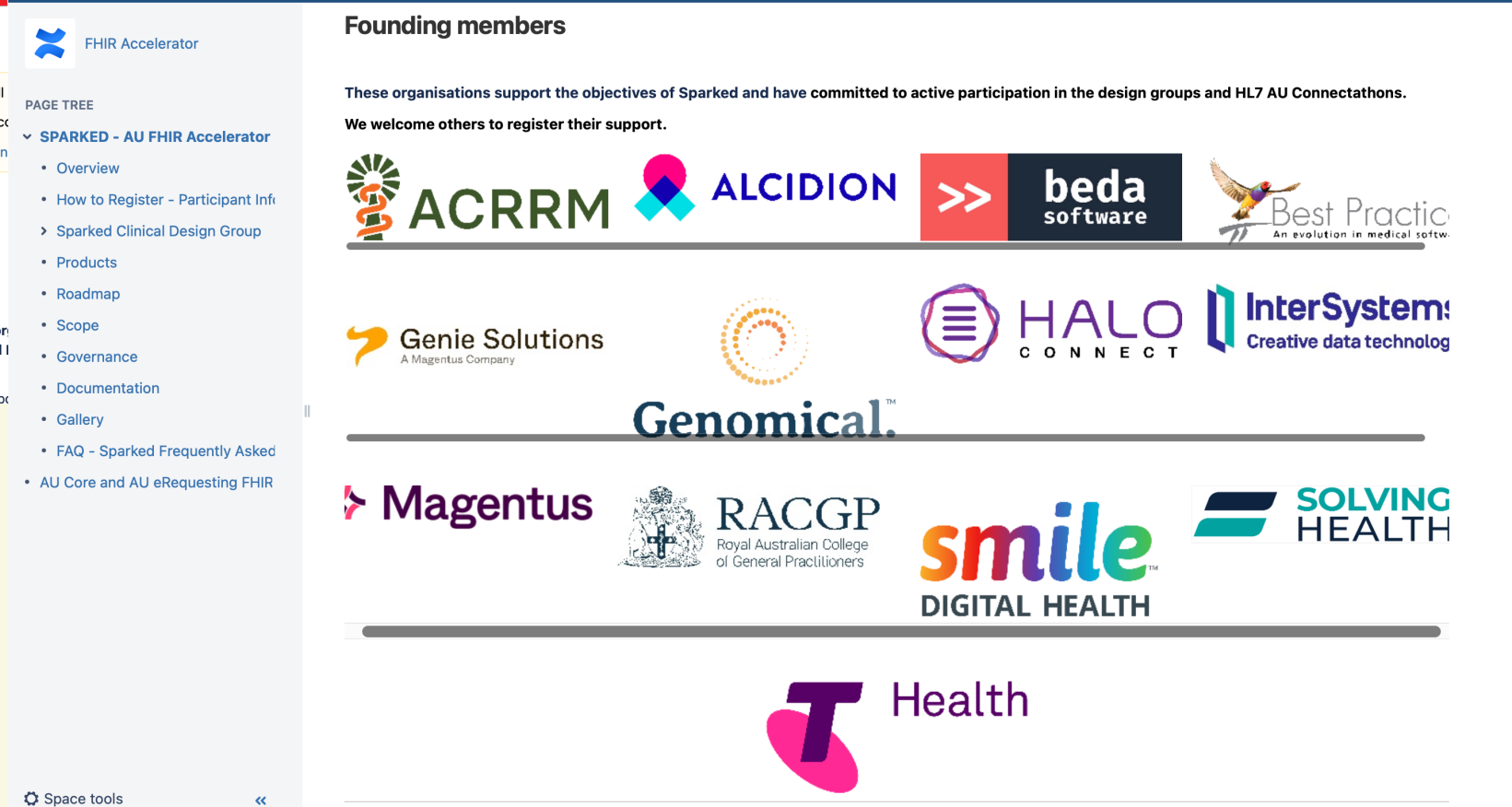
- Dr Chris Moy
- Others to be confirmed

3- 4 Face to Face meetings per year
Monthly Meetings – Virtual
Off-line review of content

Join Sparked



https://confluence.csiro.au/display/FHIR/SPARKED+-+AU+FHIR+Accelerator



Sparked
HL7 FHIR

Where we have come from

Primary Care Data Quality Foundations

Consumer at the centre!

Good data design must:

- Start by understanding me (the individual patient themselves).
- Focus on the data that supports my care.
- Monitor the wellbeing of my Community.

- Core data models and standards should remain consistent
- Focus on primary use of data-don’t start with reporting requirements

Objectives of the PCDQF

- Enable quality data, ensuring it is available as atomic data, appropriately structured and standardised
- Promote contemporary platforms that deliver system efficiency and data reuse.
- Enable access to data, within agreed data governance and sovereignty frameworks.
- Enhance decision support that’s integrated within workflow
- Support better informed decisions at practice, regional and national levels

Core Principles of Design

- Single entry, single development - multiple use and reuse
- Driven by a clinical safety use case
- Reduce duplication of effort
- Not data for data's sake
- Driven by primary use not secondary use needs
- Systems can support now or with minimal effort
- Standards based

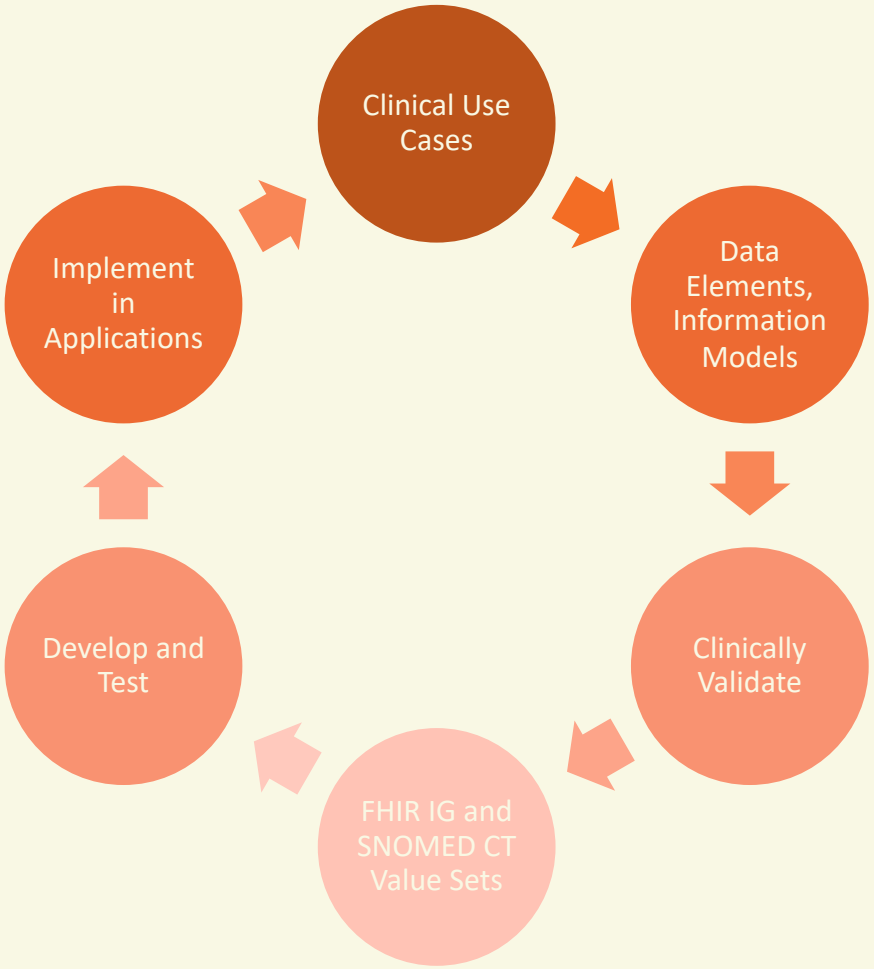
Sparked
HL7 FHIR

Core principles for the approach to delivery

Open and transparent

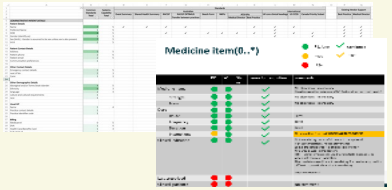
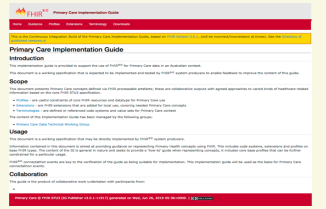
Consensus driven

Agile and iterative



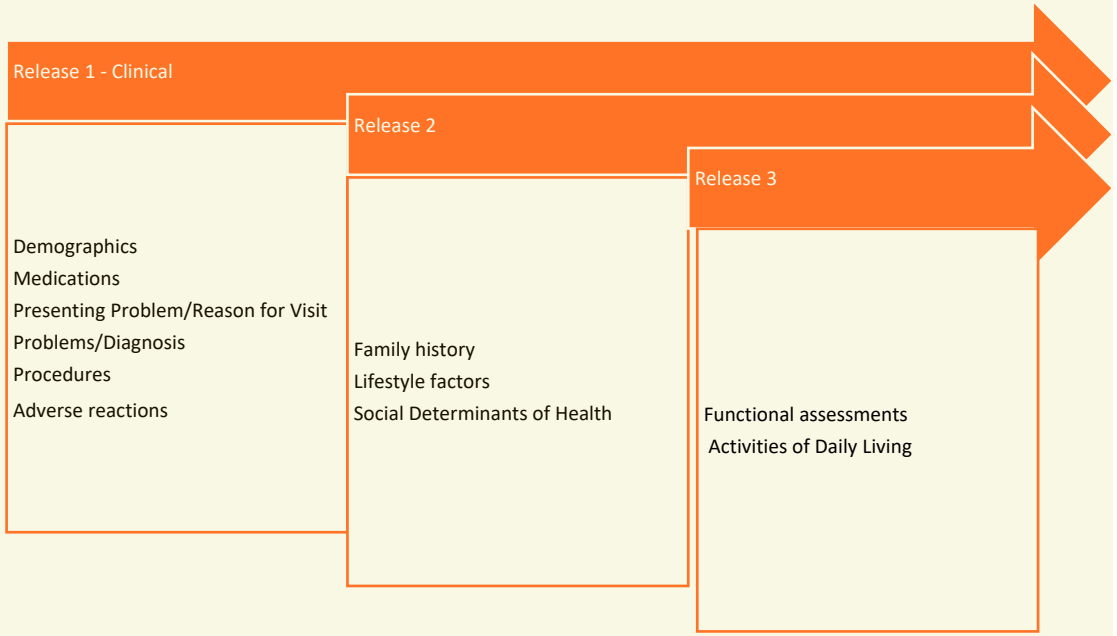
Sparked HL7 FHIR

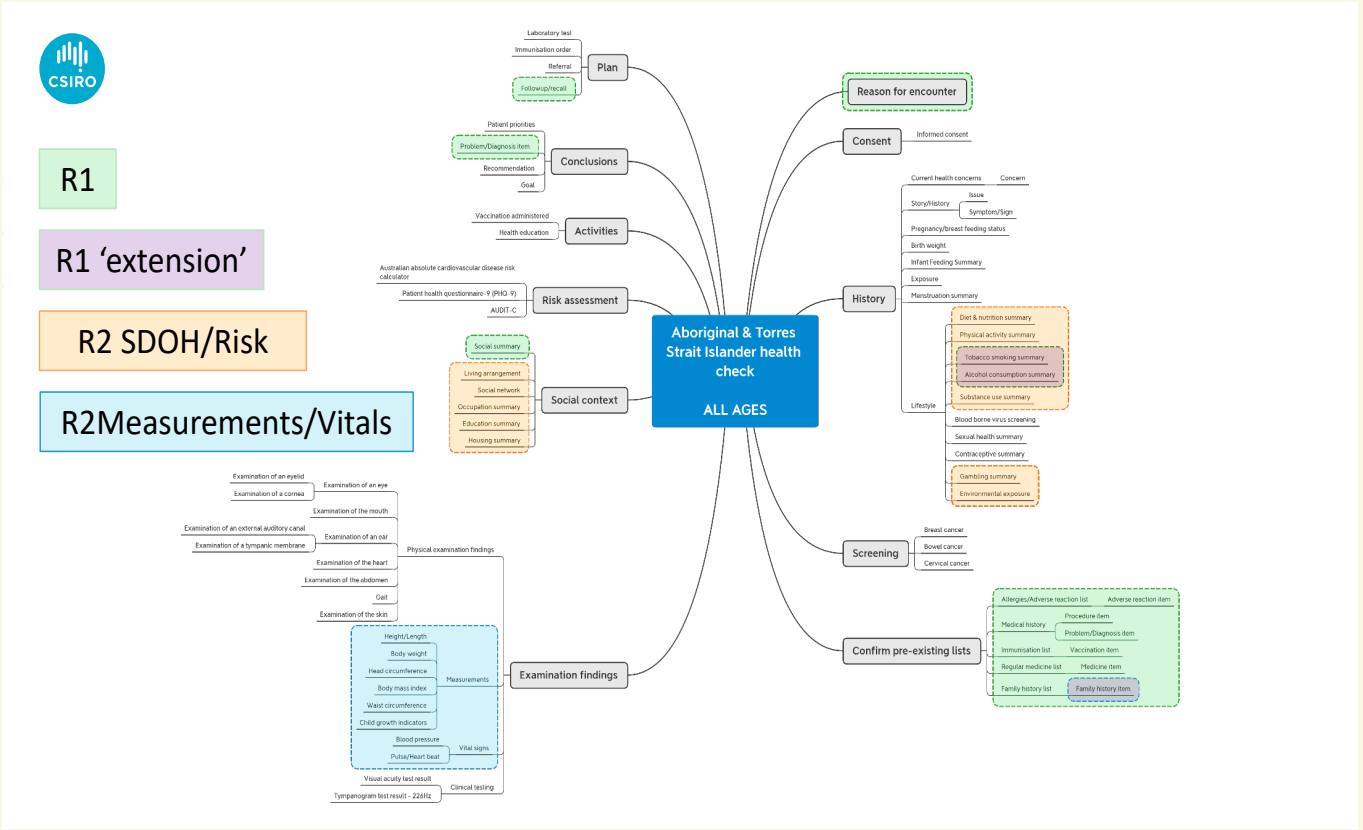
Our Process on a Page

	Existing Specifications	Harmonised Content	Primary Care Data Dictionary	FHIR Implementation Guide
Artefact	 		 	
Purpose	*Primary Care, Standards Data Specifications, Data Sets, KPIs, Assessments, FHIR, OpenEHR* Identification of all the existing specifications in Primary Care that would inform the development of the core data requirements.	*Harmonised clinical data items and identification of core common items* Candidate core data elements which are common to multiple existing specifications, that enable structured data recording and data reuse.	*Primary care clinical information model* Release # of the Data Dictionary defines the core common data elements to enable quality use of information as well as enable the safe and meaningful exchange of information to other care providers including SDOH The Dictionary includes: meta data, definitions and recommended terminology bindings ***Enter once, multiple use and interoperable exchange and reuse*** Development of SNOMED CT Value Sets	*Base Au FHIR IG-* *FHIR IG Practice to Practice Record Exchange* *FHIR IG Health Checks* An industry agreed specification, informed by the Primary Care Data Dictionary Core Common Model to support: • Practice to Practice Exchange • Aboriginal and Torrres Strait Islander Health Checks • Aged Care- Aged Care Data Compare • Child Health Record
Development/Review	Initial meeting of stakeholders to identify all potential data inputs, use cases and priorities for the projects. Community established with clinical and technical working groups. Use case agreed- reusable core data set, associated SNOMED CT Value Sets and a FHIR IG to exchange.	~~Clinical Content and Technical Working Groups~~ consensus on the core data items to be defined and included in a data dictionary and identification of the first use cases to exchange these core data items. Outputs progressively developed and iterated through a series of face to face workshops and webconferences	~~Community, consensus based development process~~ with multidisciplinary clinical content and technical working groups. Endorsement proposed to be progressed through clinical colleges and professional groups.	~~FHIR IG profiles based on the HL7au Base resources,~~ progressively developed and tested through a Community process. Endorsement proposed to be progressed through HL7au

Sparked
HL7 FHIR

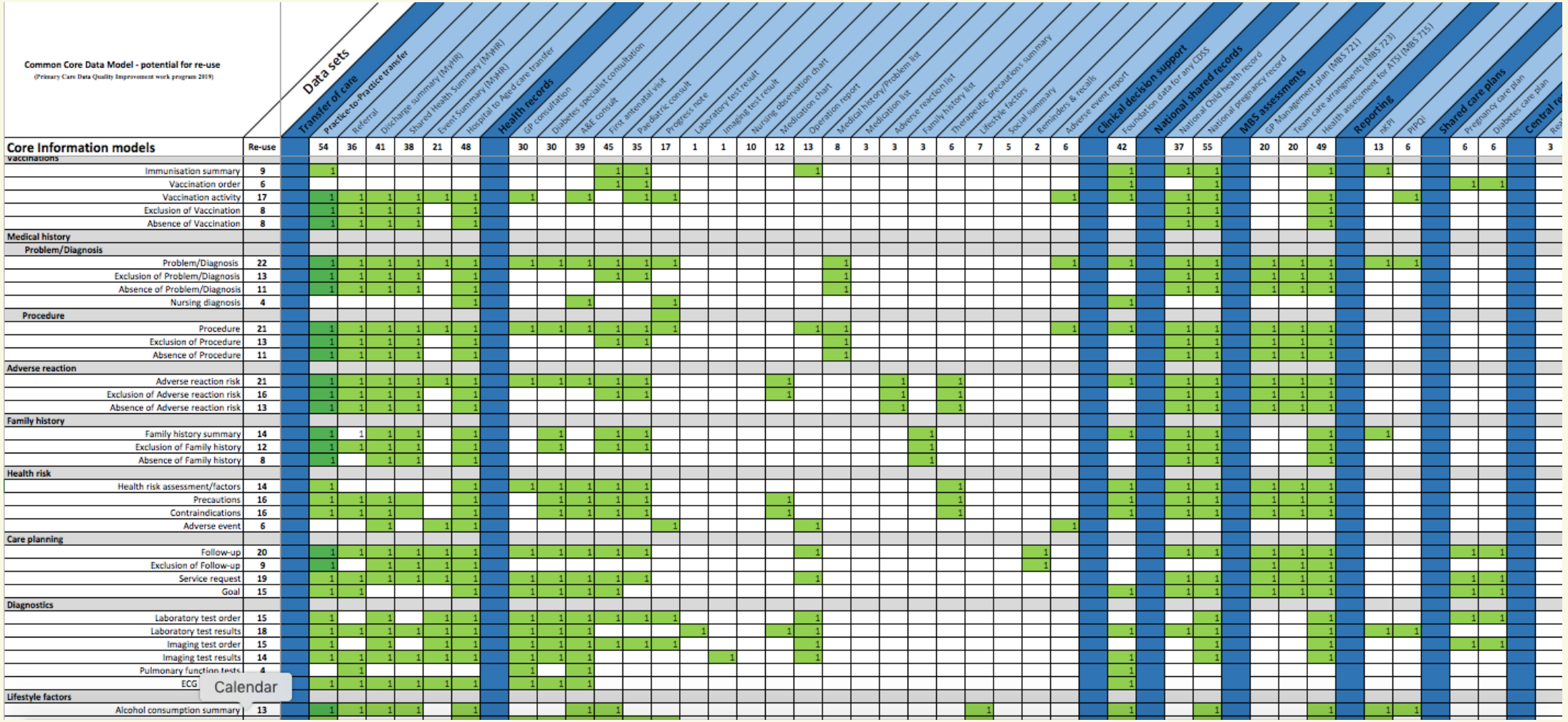
Core Data Model and Value Sets





Sparked HL7 FHIR

Single definition - Use and Reuse



Common Core Data Model - potential for re-use
(Primary Care Data Quality Improvement work program 2019)

Core Information models	Re-use	Data sets: Transfer of care	Practice-to-Practice transfer	Referral	Discharge summary (MyHR)	Shared Health Summary (MyHR)	Event Summary (MyHR)	Hospital to Aged care transfer	Health records: GP consultation	Diabetes specialist consultation	A&E consult	First antenatal visit	Paediatric consult	Progress note	Laboratory test result	Imaging test result	Nursing observation chart	Medication chart	Operation report	Medical history/Problem list	Medication list	Adverse reaction list	Family history list	Therapeutic precautions summary	Lifestyle factors	Social summary	Reminders & recalls	Adverse event report	Clinical decision support: Foundation data for any CDSS	National shared records: National Child health record	National pregnancy record	MBS assessments: GP Management plan (MBS 721)	Team care arrangements (MBS 723)	Health assessment for ATSI (MBS 715)	Reporting: nKPI	PIPQI	Shared care plans: Pregnancy care plan	Diabetes care plan	Central re: Rea
Vaccinations			54	36	41	38	21	48	30	30	39	45	35	17	1	1	1	10	12	13	8	3	3	3	6	7	5	2	6	42	37	55	20	20	49	13	6	6	6	3
Immunisation summary	9		1									1	1							1										1		1	1			1				
Vaccination order	6											1	1																	1		1								
Vaccination activity	17		1	1	1	1	1	1	1		1		1	1														1		1		1	1			1		1		
Exclusion of Vaccination	8		1	1	1	1		1																								1	1			1				
Absence of Vaccination	8		1	1	1	1		1																								1	1			1				
Medical history																																								
Problem/Diagnosis																																								
Problem/Diagnosis	22		1	1	1	1	1	1	1	1	1	1	1	1							1							1		1		1	1	1		1	1			
Exclusion of Problem/Diagnosis	13		1	1	1	1		1				1	1								1									1		1	1	1						
Absence of Problem/Diagnosis	11		1	1	1	1		1													1									1		1	1	1						
Nursing diagnosis	4							1			1			1																1										
Procedure																																								
Procedure	21		1	1	1	1	1	1	1	1	1	1	1	1						1	1							1		1	1	1	1	1						
Exclusion of Procedure	13		1	1	1	1		1				1	1								1									1	1	1	1	1						
Absence of Procedure	11		1	1	1	1		1													1									1	1	1	1	1						
Adverse reaction																																								
Adverse reaction risk	21		1	1	1	1	1	1	1	1	1	1	1						1				1		1					1		1	1	1						
Exclusion of Adverse reaction risk	16		1	1	1	1		1				1	1						1				1		1							1	1	1						
Absence of Adverse reaction risk	13		1	1	1	1		1															1		1							1	1	1						
Family history																																								
Family history summary	14		1	1	1	1		1			1	1	1										1							1		1	1			1				
Exclusion of Family history	12		1	1	1	1		1			1	1	1										1							1		1	1			1				
Absence of Family history	8		1		1	1		1															1							1		1	1			1				
Health risk																																								
Health risk assessment/factors	14		1					1	1	1	1	1	1												1					1		1	1	1						
Precautions	16		1	1	1			1		1	1	1	1					1							1					1		1	1	1						
Contraindications	16		1	1	1			1		1	1	1	1					1							1					1		1	1	1						
Adverse event	6				1		1	1						1						1								1												
Care planning																																								
Follow-up	20		1	1	1	1	1	1	1	1	1	1	1							1							1			1	1	1	1	1			1	1		
Exclusion of Follow-up	9		1		1	1	1	1																			1					1	1	1						
Service request	19		1	1	1	1	1	1	1	1	1	1	1							1										1	1	1	1	1			1	1		
Goal	15		1	1				1	1	1	1	1																	1	1	1	1	1			1	1		
Diagnostics																																								
Laboratory test order	15		1		1		1	1	1	1	1	1	1	1						1											1			1			1	1		
Laboratory test results	18		1	1	1	1	1	1	1	1	1				1				1	1										1		1	1			1	1		
Imaging test order	15		1		1		1	1	1	1	1	1	1	1						1											1			1			1	1		
Imaging test results	14		1	1	1	1	1	1	1	1	1					1				1										1		1		1						
Pulmonary function tests	4			1					1		1																			1										
ECG			1	1	1	1	1	1	1	1	1																			1										
Lifestyle factors																																								
Alcohol consumption summary	13		1	1	1	1		1			1	1												1						1		1			1		1	1		

Calendar

Sparked
HL7 FHIR

Outcomes

- Funded by Department of Health
- Commenced in October 2018
- Community of over 120 who continued on the Journey over the 5 years
- Delivered 3 Releases of a core data model for AU primary care domain and associated maximal SNOMED CT value sets which can be reused across multiple use cases. Fed in AU Base and AU Core- basis now for AU-CDI
- Delivered Gp2GP IG- aligns largely to IPS
- Training Material on Data Quality
- Delivered Smart Health Check and App- going into Pilot stage
- Model being applied to other use cases – Child Health Record, Aged Care. Informed work in other countries- Canada adopting approach
- Increased clinician awareness around the value of structured data to support reuse.

Existing national clinical information models

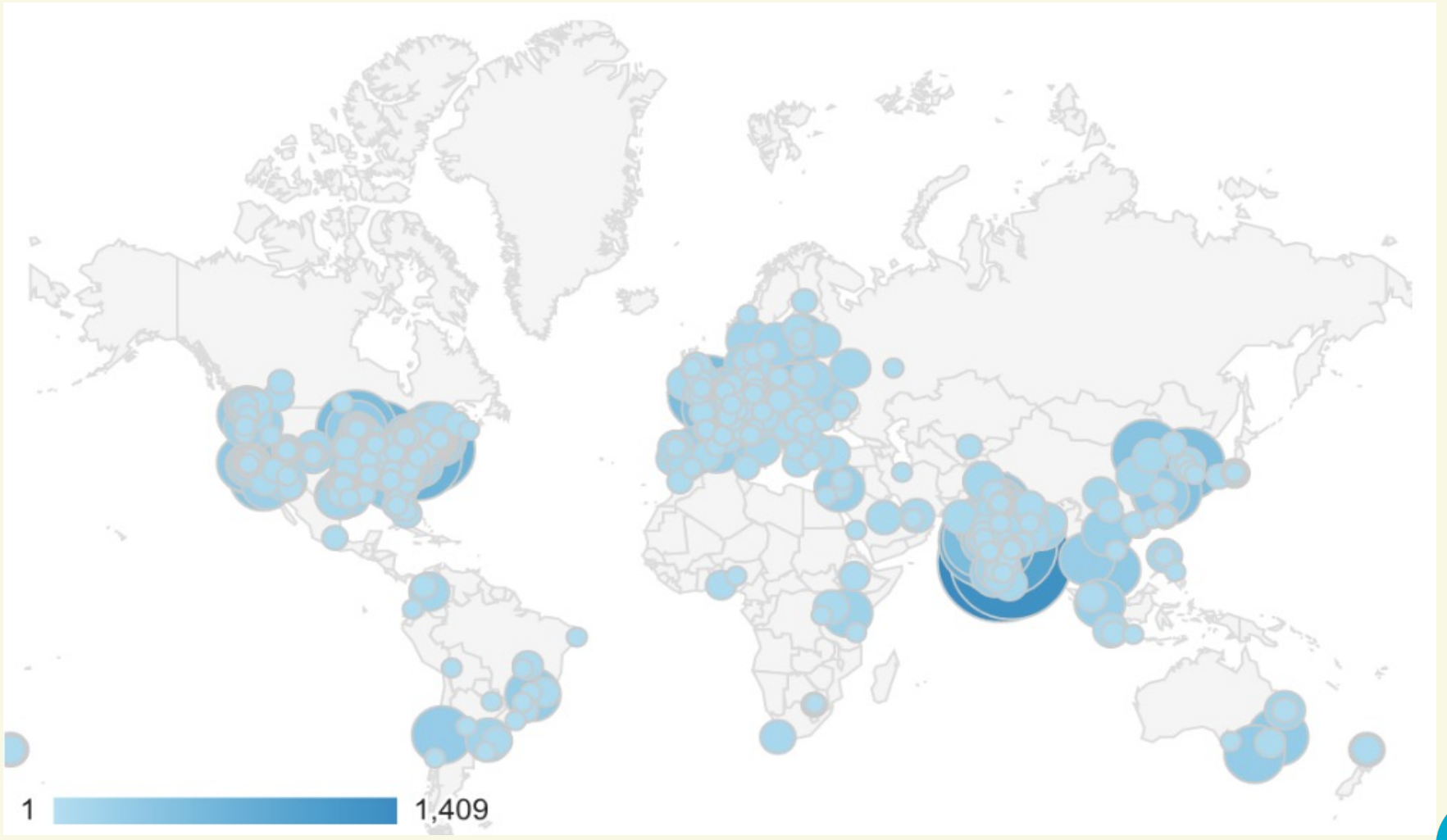
Agency has a significant catalogue of clinical information model work underpinning the My Health Record document capabilities.

Agency has fed that work into AU Base & AU Core. The former NEHTA Detailed Clinical Models have informed the FHIR Standard.

.

What’s happening around the world?

FHIR - a Global Phenomenon



Sparked HL7 FHIR

CSIRO Australian e-Health Research Centre

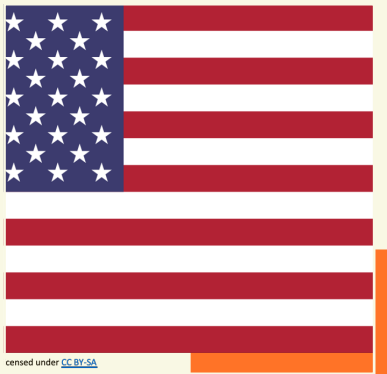
US: 21st Century Cures Act

Mandates EHR FHIR Gateways for Patients
U.S. Core Data for Interoperability (USCDI)
Outlaws Data Blocking

Sparked
HL7 FHIR

Canada

- [Pan Canadian Health Data Strategy] (pCHDS)
  - Modernising Data Collection in a standardised way to allow sharing
  - Streamlining the approach to Privacy
  - Clarifying accountability and Health data Governance
- CIHI Reference Data Model (CRDM)
  - Concepts (categories of data) that are of interest to CIHI — concepts can be a person, thing, place or event;
  - Relationships between the concepts; and
  - Core attributes — key information about each concept.



censed under CC BY-SA

USA

- 21st Century Cures Act
- ONC
- The USCDI is a set of structured data elements that can be exchanged between electronic health records (EHRs) and other health information systems in the United States under the Cures Act final rule.
- The goal of the USCDI is to support interoperability in healthcare by standardizing the way that health information is represented, making it easier for different systems to exchange data while maintaining privacy and security.

Sparked HL7 FHIR

For data class description and applicable standards supporting data elements, click to view the USCDI Version 1 (July 2020 errata) in PDF format below.

Click to View USCDI V1

Click to View USCDI V4

Click to View USCDI V2

Click to View USCDI V3

Previous USCDI Versions

The USCDI ONC New Data Element ar Class (ONDEC) Submission System supports a predictable, transparent, a collaborative process, allowing health stakeholders to submit new data elements and classes for future versic of USCDI. Click here for more information and to submit new data

United States Core Data for Interoperability (USCDI)

The United States Core Data for Interoperability (USCDI) is a standardized set of health d elements for nationwide, interoperable health information exchange. Review the USCDI

A USCDI Data Class is an aggregation of Data Elements by a common theme or use

A USCDI Data Element is a piece of data defined in USCDI for access, exchange or us

USCDI ONC New Data Element & Class (ONDEC) Submission System

With the publication of USCDI v4, ONC is accepting submissions for new data eleme submissions and comments is September 20, 2023 at 11:59 p.m. ET. Submissions rec for USCDI v6.

USCDI V1 | USCDI V2 | USCDI V3 | **USCDI V4** | Level 2

elements and classes for future versions of USCDI. Click here for more information and to submit new data elements.

The USCDI standard will follow the Standards Version Advancement Process described in the Cures rule to allow health IT developers to update their systems to newer version of USCDI and provide these updates to their customers.

Clinical Notes

Narrative patient data relevant to the context identified by note types.

- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

Clinical Tests

Non-imaging and non-laboratory tests performed that result in structured or unstructured findings specific to the patient to facilitate the diagnosis and management of conditions.

- Clinical Test
- Clinical Test Result/Report

Diagnostic Imaging

Tests that result in visual images requiring interpretation by a credentialed professional.

- Diagnostic Imaging Test
- Diagnostic Imaging Report

- Health Concerns
- Functional Status
- Disability Status
- Mental/Cognitive Status
- Pregnancy Status
- Alcohol Use
- Substance Use
- Physical Activity
- SDOH Assessment
- Smoking Status

Immunizations

Record of vaccine administration.

- Immunizations

Laboratory

Analysis of clinical specimens to obtain information about the health of a patient.

- Tests
- Values/Results
- Specimen Type
- Result Status
- Result Unit of Measure
- Result Reference Range
- Result Interpretation
- Specimen Source Site
- Specimen Identifier
- Specimen Condition Acceptability

- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Relationship Type
- Occupation
- Occupation Industry

Patient Summary and Plan

Conclusions and working assumptions that will guide treatment of the patient, and recommendations for future treatment.

- Assessment and Plan of Treatment

Problems

Condition, diagnosis, or reason for seeking medical attention.

- Problems
- SDOH Problems/Health Concerns
- Date of Diagnosis
- Date of Resolution

Procedures

Activity performed for or on a patient as part of the provision of care.

Allergies and Intolerances

Harmful or undesired physiological responses associated with exposure to a substance.

- Substance (Medication)
- Substance (Drug Class)
- Substance (Non-Medication)
- Reaction

Care Team Member(s)

Information on a person who participates or is expected to participate in the care of a patient.

- Care Team Member Name
- Care Team Member Identifier
- Care Team Member Role
- Care Team Member Location
- Care Team Member Telecom

Clinical Notes

Narrative patient data relevant to the context identified by note types.

- Consultation Note
- Discharge Summary Note
- History & Physical
- Procedure Note
- Progress Note

Health Insurance Information

Data related to an individual's insurance coverage for health care.

- Coverage Status
- Coverage Type
- Relationship to Subscriber
- Member Identifier
- Subscriber Identifier
- Group Identifier
- Payer Identifier

Health Status Assessments

Assessments of a health-related matter of interest, importance, or worry to a patient, patient's family, or patient's healthcare provider that could identify a need, problem, or condition.

- Health Concerns
- Functional Status
- Disability Status
- Mental/Cognitive Status
- Pregnancy Status
- Alcohol Use
- Substance Use
- Physical Activity
- SDOH Assessment
- Smoking Status

Patient Demographics/Information

Data used to categorize individuals for identification, records matching, and other purposes.

- First Name
- Last Name
- Middle Name (including middle initial)
- Name Suffix
- Previous Name
- Date of Birth
- Date of Death
- Race
- Ethnicity
- Tribal Affiliation
- Sex
- Sexual Orientation
- Gender Identity
- Preferred Language
- Current Address
- Previous Address
- Phone Number
- Phone Number Type
- Email Address
- Related Person's Name
- Relationship Type
- Occupation
- Occupation Industry

Patient Summary and Plan

Conclusions and working

Encounter Disposition

Facility Information

Physical place of available services or resources.

- Facility Identifier
- Facility Type
- Facility Name

Goals and Preferences

Desired state to be achieved by a person or a person's elections to guide care.

- Patient Goals
- SDOH Goals
- Treatment Intervention Preference
- Care Experience Preference

Medications

Pharmacologic agents used in the diagnosis, cure, mitigation, treatment, or prevention of disease.

- Medications
- Dose
- Dose Unit of Measure
- Indication
- Fill Status
- Medication Instructions
- Medication Adherence

The metadata, or extra information about data, regarding who created the data and when it was created.

- Author Time Stamp
- Author Organization

Vital Signs

Physiologic measurements of a patient that indicate the status of the body's life sustaining functions.

- Systolic Blood Pressure
- Diastolic Blood Pressure
- Average Blood Pressure
- Heart Rate
- Respiratory Rate
- Body Temperature
- Body Height
- Body Weight
- Pulse Oximetry
- Inhaled Oxygen Concentration
- BMI Percentile (2 - 20 years)
- Weight-for-length Percentile (Birth - 36 Months)
- Head Occipital-frontal Circumference Percentile (Birth - 36 Months)

Sparked HL7 FHIR

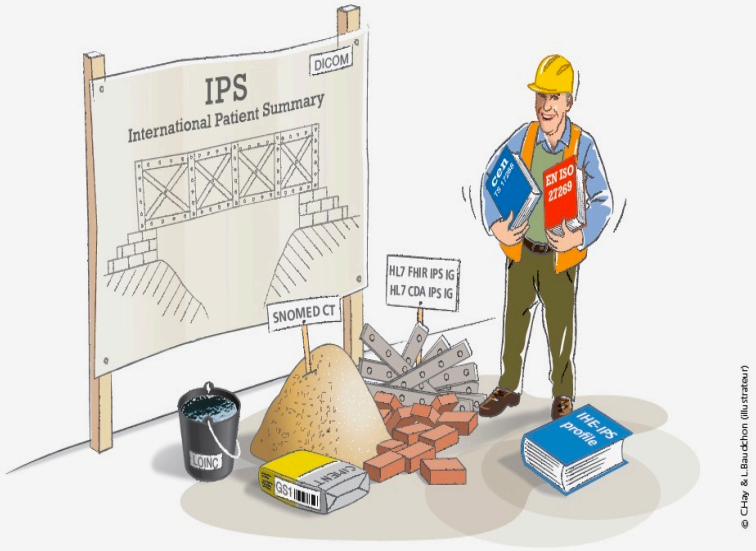
UK

- PRSB
  - The Professional Record Standards Body (PRSB) was established in 2013 to ensure that there are consistent standards for care records.
  - Funded by NHS, the aim is to develop clinical standards for health and care records, as approved by the Academy of Royal Medical Colleges.
- Summary care record
- NHS England Portable Care record

G7 & G20

- Commitment to working towards adopting a standardised minimum health dataset for patients' health information, including through the **International Patient Summary (IPS)** standard; developing internationally shared principles for enabling patient access to health data; and promoting the use of open standards for health data.

International Patient Summary



© CHay & LBaudchon (illustrateur)

1 International Patient Summary Implementation Guide

Official URL: **http://hl7.org/fhir/uv/ips/ImplementationGuide/hl7.fhir.uv.ips**		*Version*: **1.1.0**
IG Standards status: Trial-use	Maturity Level: 2	*Computable Name*: InternationalPatientSummaryIG

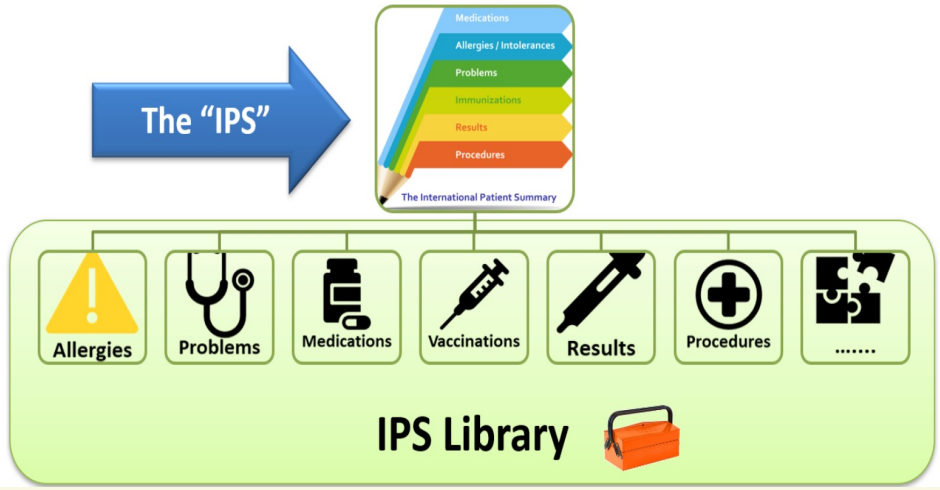
Page standards status: Informative

An **International Patient Summary (IPS) document** is an electronic health record extract containing essential healthcare information about a subject of care. As specified in EN 17269 and ISO 27269, it is designed for supporting the use case scenario for 'unplanned, cross border care', but it is not limited to it. It is intended to be international, i.e., to provide generic solutions for global application beyond a particular region or country.

The IPS dataset is **minimal and non-exhaustive; specialty-agnostic and condition-independent; but still clinically relevant**.

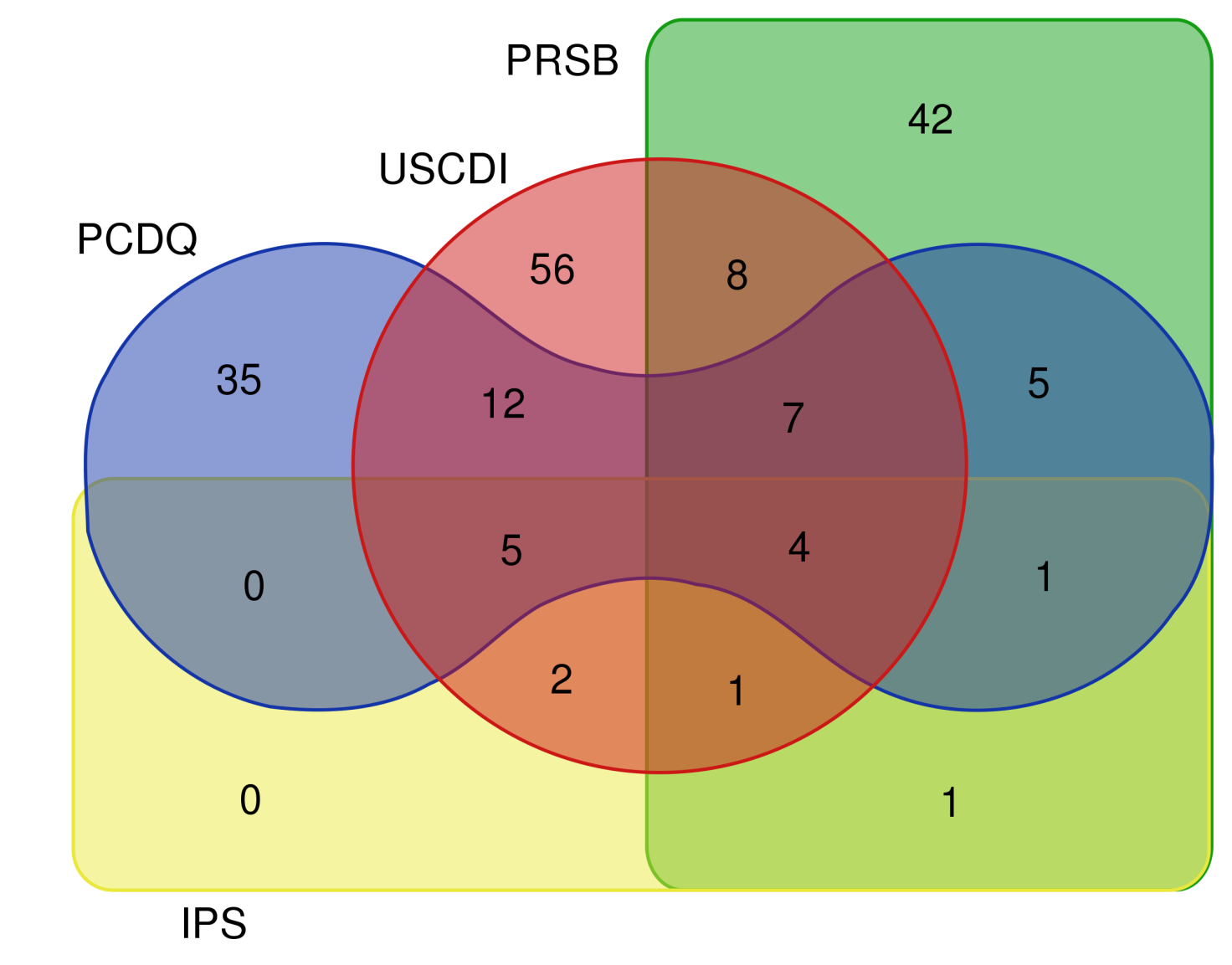
The IPS document is composed by a set of robust, well-defined and potentially reusable sets of core data items (indicated as IPS library in the figure below). The tight focus of the IPS on unplanned care is in this case not a limitation, but, on the contrary, facilitates their potential re-use beyond the IPS scope.

Figure 1: The IPS product and by-products



Sparked HL7 FHIR

Comparison between PCDQ,USCDI, IPS, PRSB



Greatest alignment
Adverse Reaction
Problem Diagnosis
Medication
Tobacco/Smoking
Vaccination

This is a high- level comparison of data elements
Depth of coverage was not considered

Sparked HL7 FHIR

Comparison between PCDQ,USCDI, IPS, PRSB

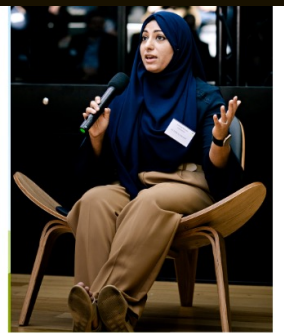
List names	number of elements
IPS	14
PCDQ	69
PRSB	69
USCDI	95

This is a high- level comparison of data elements
Depth of coverage was not considered

Names	total	elements
IPS PCDQ PRSB USCDI	4	Adverse reaction/Allergy risk summary Alcohol consumption summary Problem/Diagnosis summary Procedure summary
PCDQ PRSB USCDI	7	Social summary Education summary Vaccination record Occupation summary Encounter Goal Family history summary
IPS PCDQ USCDI	5	Medication order Expected due date Pregnancy summary Imaging examination results Laboratory test results
IPS PCDQ PRSB	1	Tobacco smoking summary
IPS PRSB USCDI	1	Pregnancy status
PCDQ USCDI	12	Personal safety summary Alcohol Use Disorders Identification Test (AUDIT) Ethnicity Food and nutrition summary Sexual health summary Support network summary Last menstrual period Gender Exposure summary Transport access summary Medical care/services Body mass index
PCDQ PRSB	5	Medication screening Consent for health information sharing Substance use summary Physical examination Problem list
PRSB USCDI	8	Immigration/Refugee status Living arrangement summary/Household Mobility needs Mental/Cognitive status Referrals Procedures & therapies list Advance directive Medical power of attorney
IPS USCDI	2	Observations Medical device summary
IPS PRSB	1	Medication statement

Morning tea

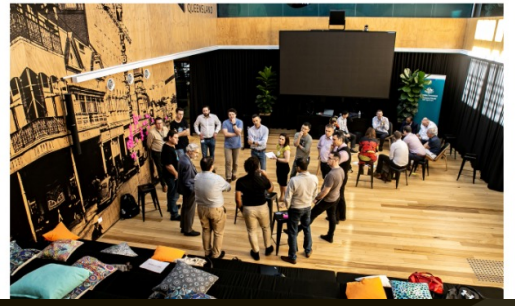

CSIRO
GREATEST HITS TOUR
AUSSIE INVENTIONS FOR THE WORLD
1953
1961
1984
1986
1988
1992
1996
1998
2001
2007




Acknowledgment


got FHIR questions?
ask me
>_
hi@beda.software


CB&Co



Why a common core data model?

Clinical perspective

Rob Hosking, Jo Wright

Industry perspective

Marvin Malcolm, Danielle Bancroft

Local/PHN reporting perspective

Nick McGhie

National reporting perspective

AIHW

What’s your why?

Activity done in workshop

Mentimeter

What's the why for you?

206 responses

Sparked HL7 FHIR

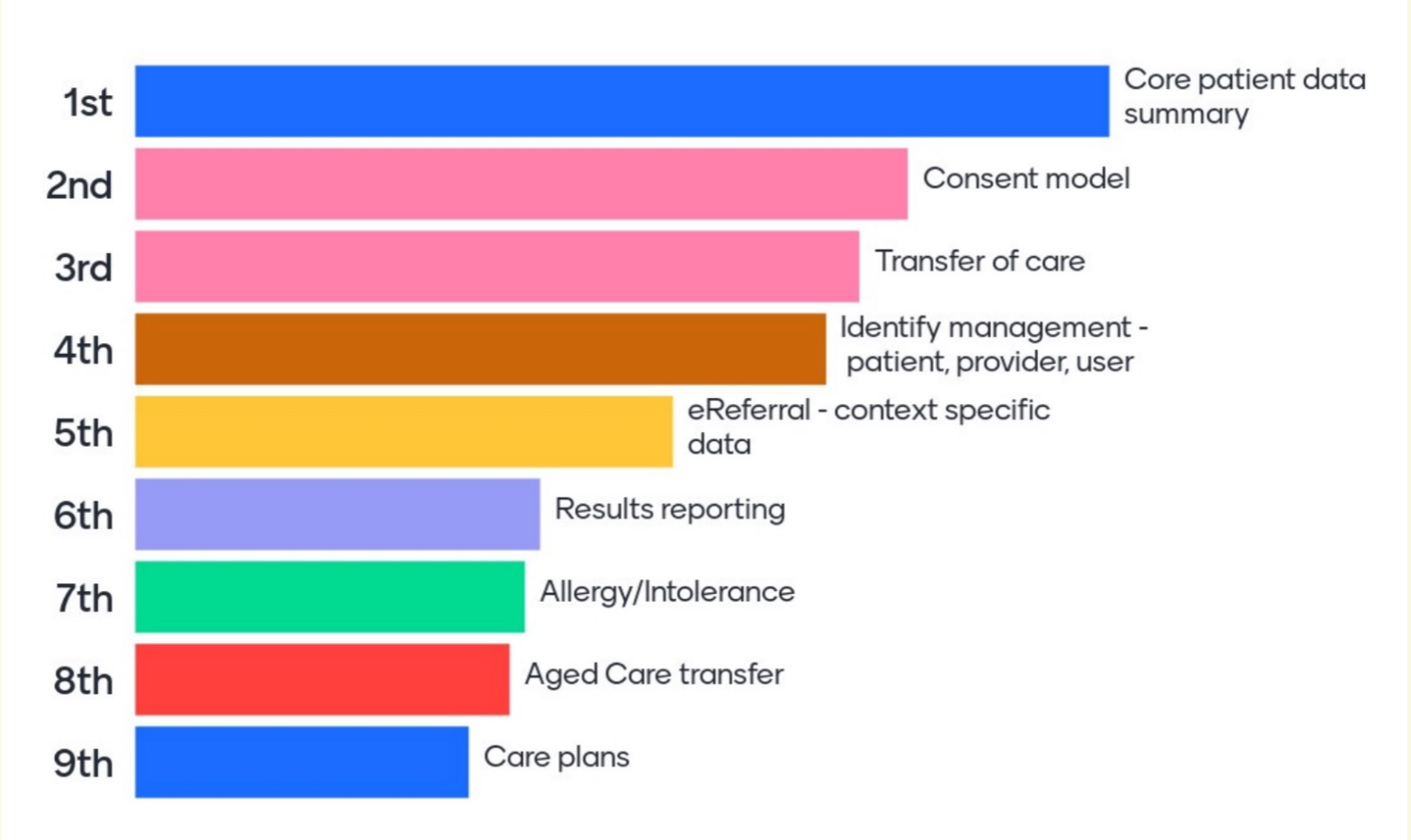
1 68

Lunch


Acknowledgment
We acknowledge the Traditional Custodians of the land on which we all gather today, in Meanjin (Brisbane), the Turrbal, Yuggera and Jagera nations.
We pay our respect to elders past, present, and emerging and extend our respect to all Aboriginal and/or Torres Strait Islander people, acknowledging the First Peoples as the first scientists, educators and healers.
got FHIR questions?
ask me
hi@beda.software
FOOD & DRINK FREE ZONE
CSIRO
GREATEST HITS TOUR
AUSSIE INVENTIONS FOR THE WORLD
Solar hot water system 1953
Ultrasound scanner 1961
Cotton breeding, since 1984
Gene Silencing RNAi 1986
Plastic banknotes 1988
WiFi 1992
Relenza 1996
RAFT polymerisation 1998
Extended-wear contact lenses 2001
UltraBattery 2007
BuildingIQ 2009
WASP 2012
Zebedee

Workshop activity

Sparked launch use case priority ranking



Sparked
HL7 FHIR

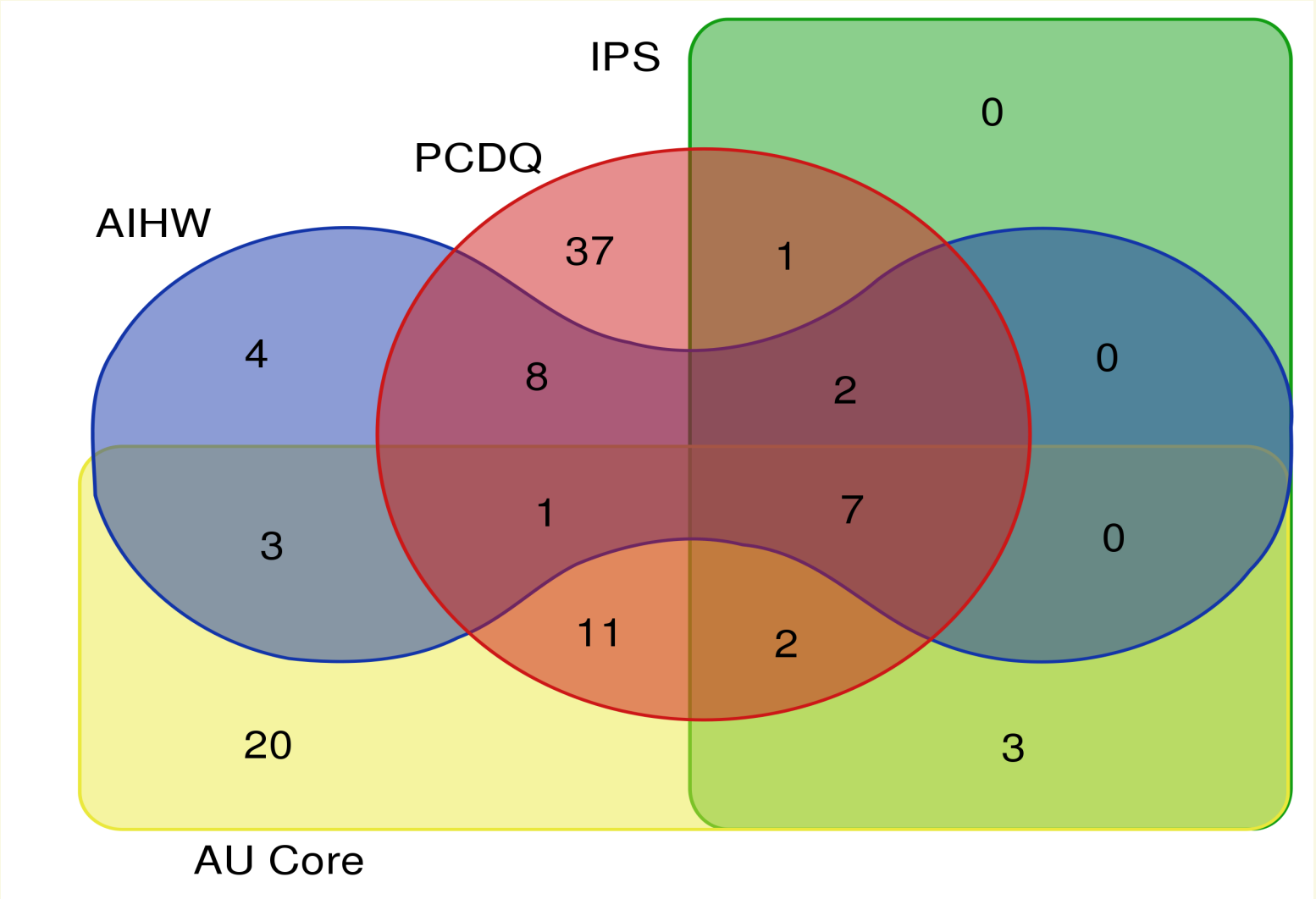
Workshop activity 1

What are the Priority Use Cases?

As an individual think about your top 3 priorities for the use of AU CDI- put them on Post it notes

As a group share and discuss and decide top 3 priorities and why.

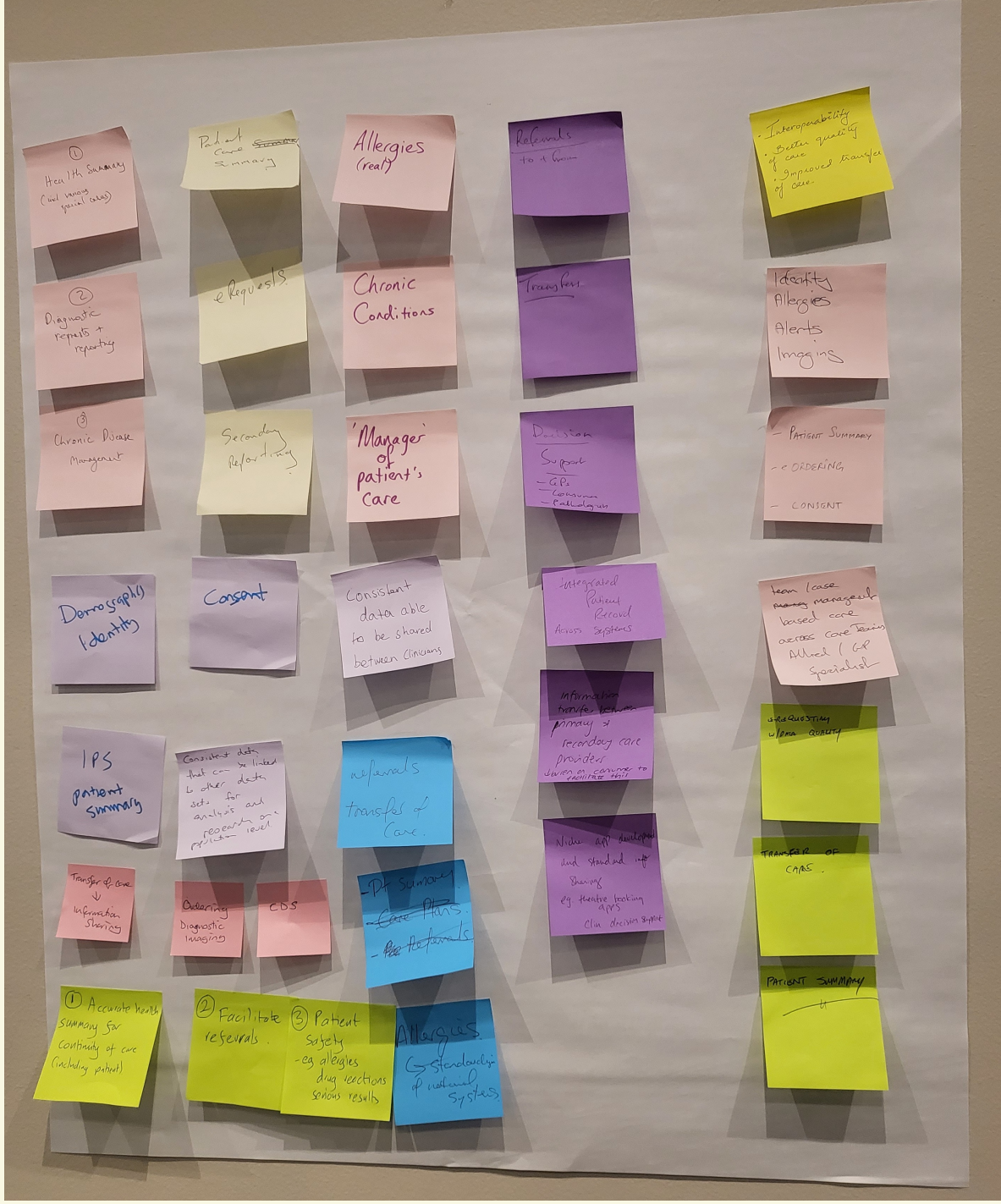
Report back to the room



Medications
Adverse Reactions
Problem/Diagnosis
Vaccinations
Laboratory results
Tobacco
Smoking Status

Activity done in workshop

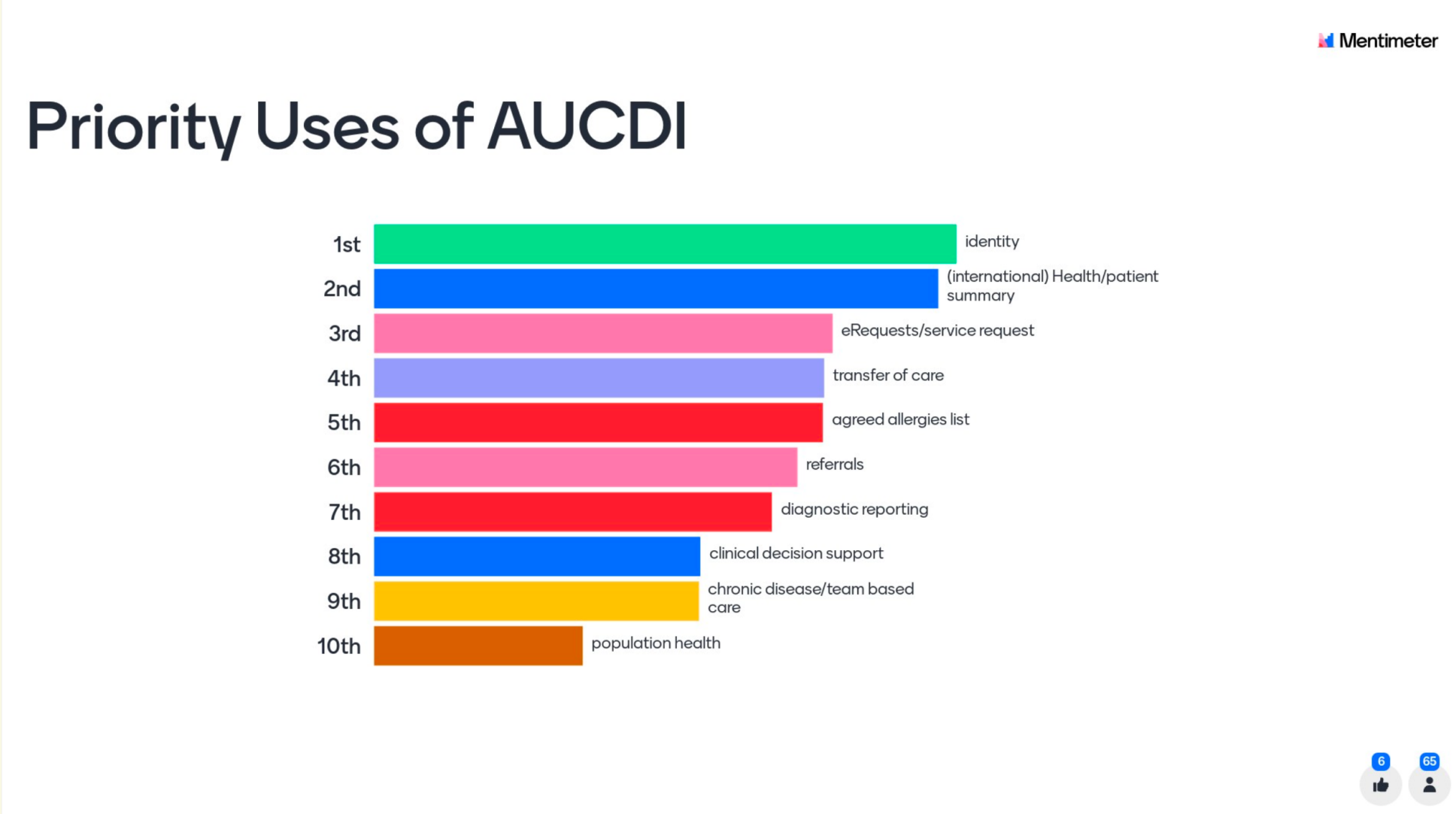
Results of the group discussion



Sparked
HL7 FHIR

Activity done in workshop

Audience Ranking of priorities from group activity



Sparked HL7 FHIR

Workshop Activity 2- Scope of AU CDI

As an individual you get a bunch of stickers 6 gold stickers, 6 Silver and 6 Black.

Choose wisely!

- Place your gold stickers on the top 6 data groups (Sheets) in scope for R1 AU CDI
- Place your silver stickers on the next data items to be included in the backlog for AUCDI
- Place your black stickers on data items you don’t believe should be in scope for AUCDI

Any data items missing? Post it note add to sheet.

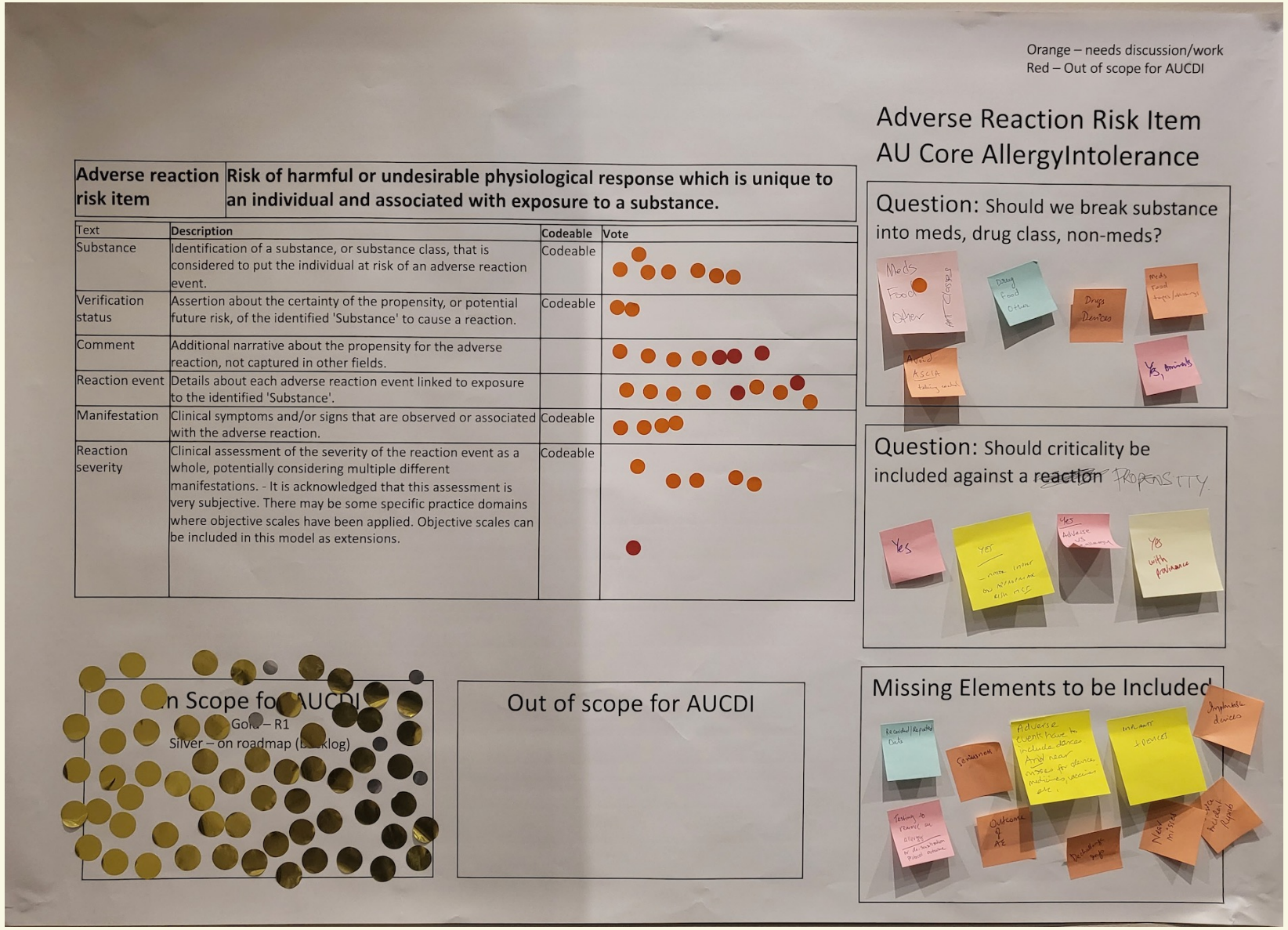
Workshop Activity 3- where more work is required?

As a group

- Place yellow dots for data elements you agree should be in AU CDI but need more discussion
- Place Red dots against data elements that shouldn’t be in AU CDI.
- Any data elements missing on a post it note.

Activity done in workshop

Results of voting activities



Orange – needs discussion/work
Red – Out of scope for AUCDI

Adverse reaction risk item	Risk of harmful or undesirable physiological response which is unique to an individual and associated with exposure to a substance.		
Text	Description	Codeable	Vote
Substance	Identification of a substance, or substance class, that is considered to put the individual at risk of an adverse reaction event.	Codeable	
Verification status	Assertion about the certainty of the propensity, or potential future risk, of the identified 'Substance' to cause a reaction.	Codeable	
Comment	Additional narrative about the propensity for the adverse reaction, not captured in other fields.		
Reaction event	Details about each adverse reaction event linked to exposure to the identified 'Substance'.		
Manifestation	Clinical symptoms and/or signs that are observed or associated with the adverse reaction.	Codeable	
Reaction severity	Clinical assessment of the severity of the reaction event as a whole, potentially considering multiple different manifestations. - It is acknowledged that this assessment is very subjective. There may be some specific practice domains where objective scales have been applied. Objective scales can be included in this model as extensions.	Codeable	

Adverse Reaction Risk Item
AU Core AllergyIntolerance

Question: Should we break substance into meds, drug class, non-meds?

Question: Should criticality be included against a reaction ~~Severity~~ PROPENSITY

Missing Elements to be Included

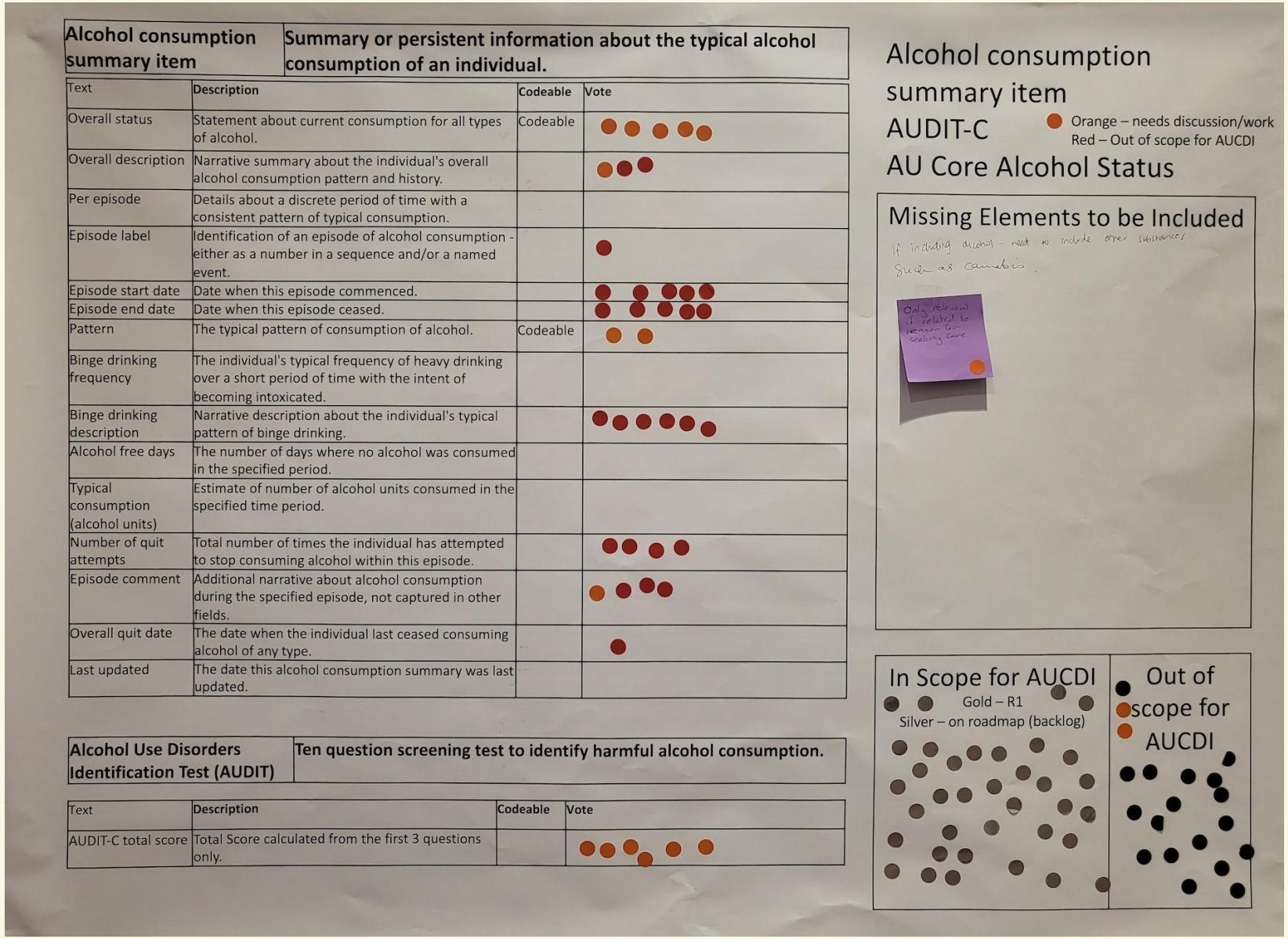
n Scope for AUCDI
Gold – R1
Silver – on roadmap (backlog)

Out of scope for AUCDI

Sparked
HL7 FHIR

Activity done in workshop

Results of voting activities



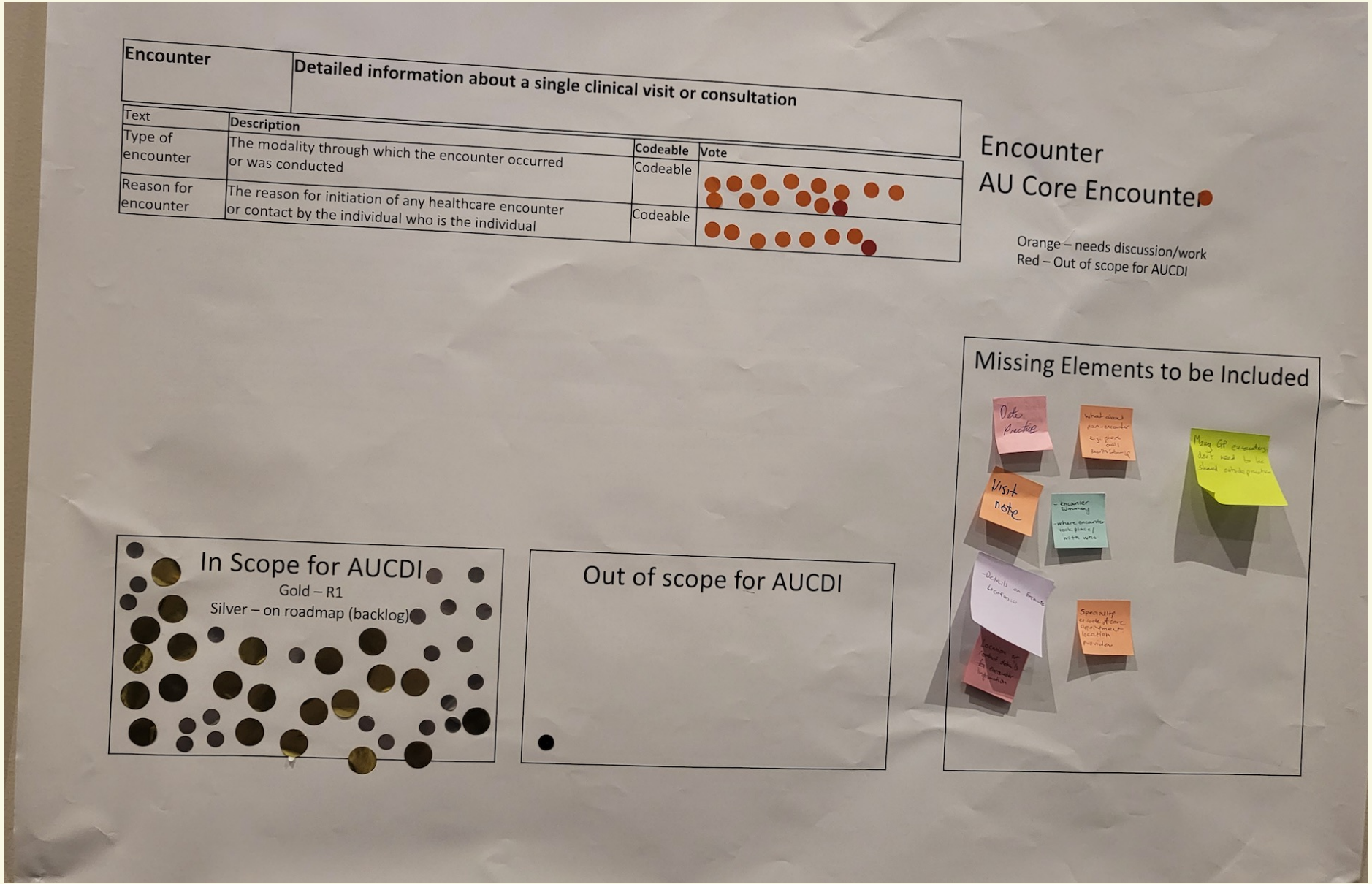
Alcohol consumption summary item	Summary or persistent information about the typical alcohol consumption of an individual.		
Text	Description	Codeable	Vote
Overall status	Statement about current consumption for all types of alcohol.	Codeable	
Overall description	Narrative summary about the individual's overall alcohol consumption pattern and history.		
Per episode	Details about a discrete period of time with a consistent pattern of typical consumption.		
Episode label	Identification of an episode of alcohol consumption - either as a number in a sequence and/or a named event.		
Episode start date	Date when this episode commenced.		
Episode end date	Date when this episode ceased.		
Pattern	The typical pattern of consumption of alcohol.	Codeable	
Binge drinking frequency	The individual's typical frequency of heavy drinking over a short period of time with the intent of becoming intoxicated.		
Binge drinking description	Narrative description about the individual's typical pattern of binge drinking.		
Alcohol free days	The number of days where no alcohol was consumed in the specified period.		
Typical consumption (alcohol units)	Estimate of number of alcohol units consumed in the specified time period.		
Number of quit attempts	Total number of times the individual has attempted to stop consuming alcohol within this episode.		
Episode comment	Additional narrative about alcohol consumption during the specified episode, not captured in other fields.		
Overall quit date	The date when the individual last ceased consuming alcohol of any type.		
Last updated	The date this alcohol consumption summary was last updated.		

Alcohol Use Disorders Identification Test (AUDIT)	Ten question screening test to identify harmful alcohol consumption.		
Text	Description	Codeable	Vote
AUDIT-C total score	Total Score calculated from the first 3 questions only.		

Sparked HL7 FHIR

Activity done in workshop

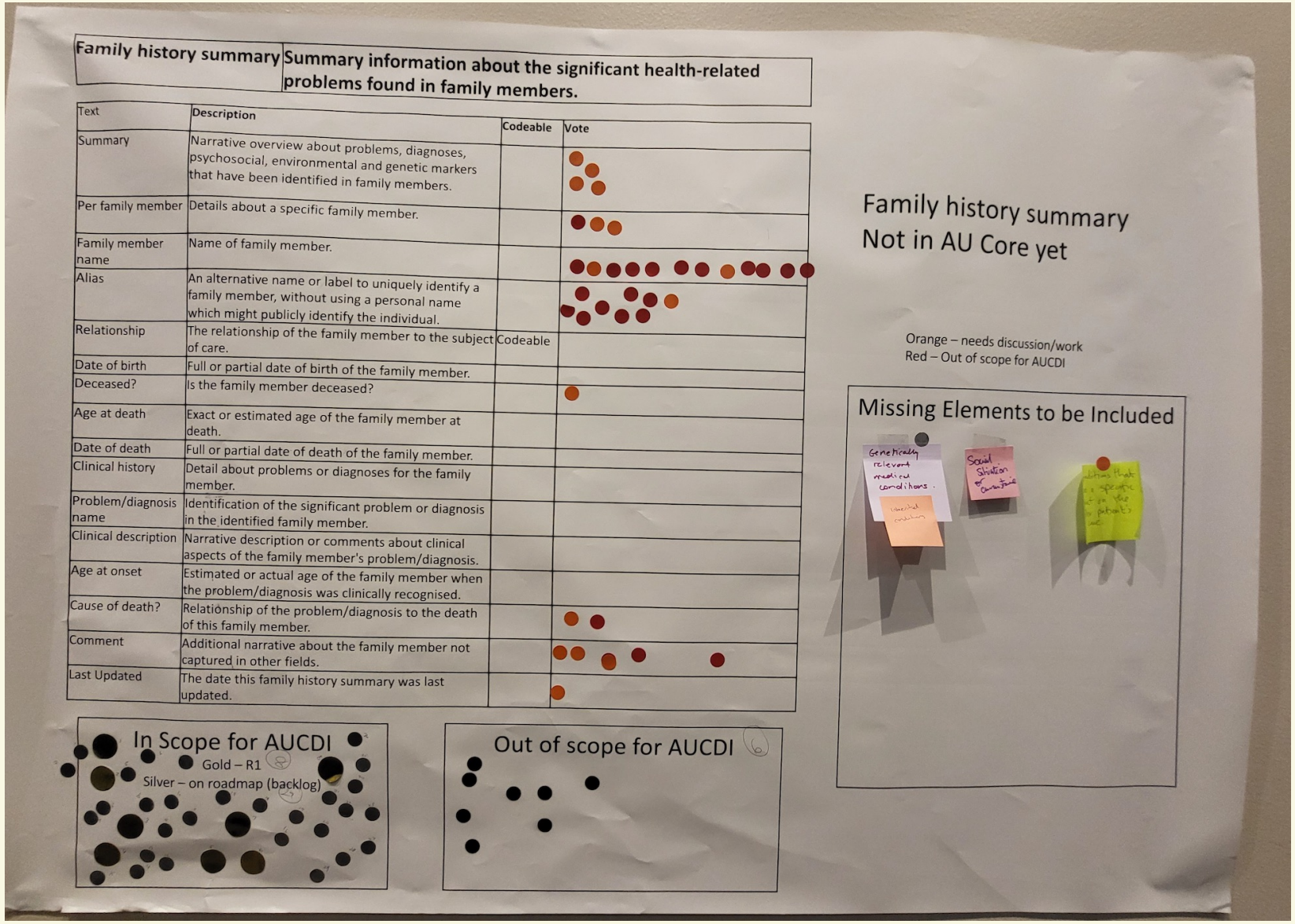
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

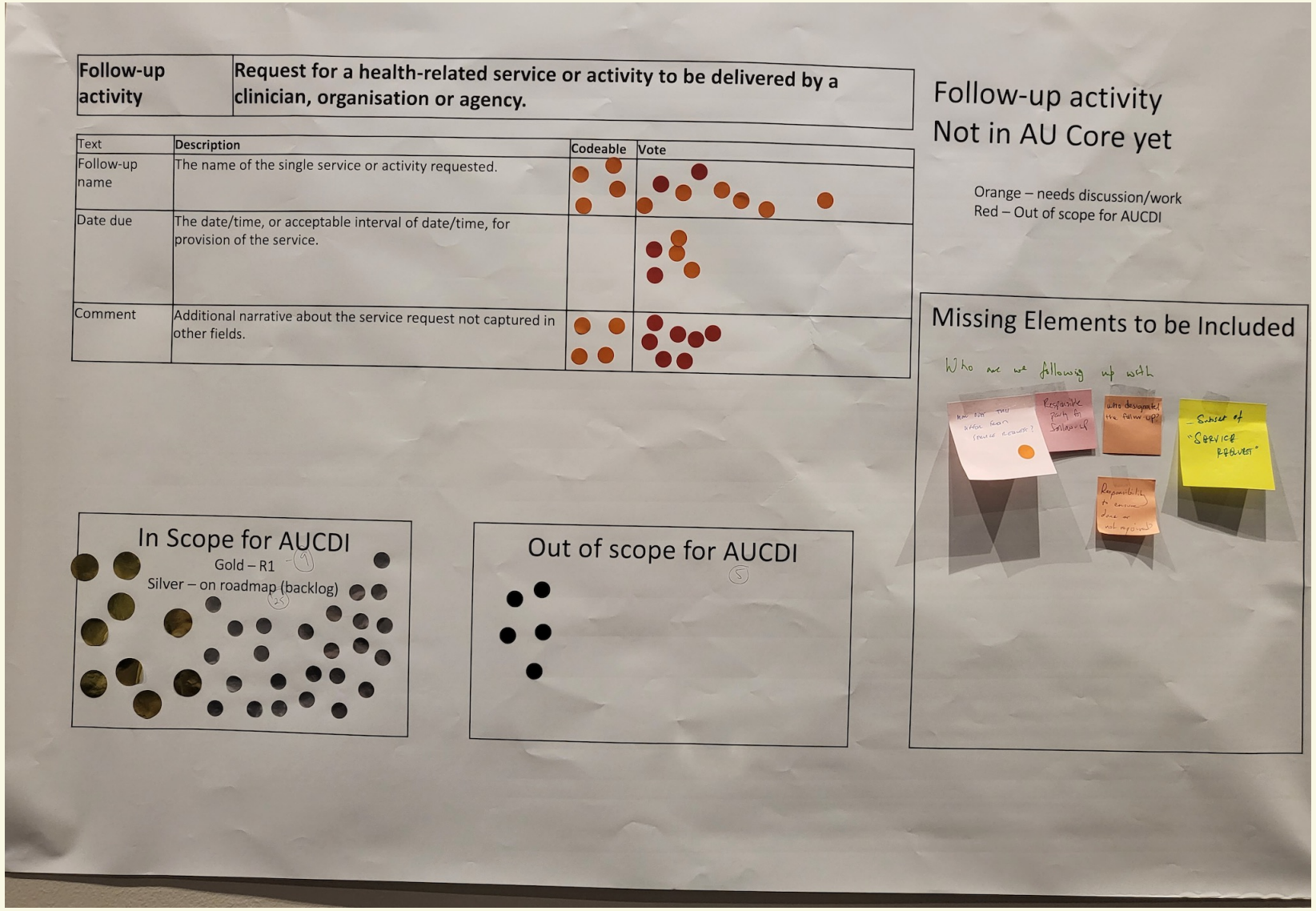
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

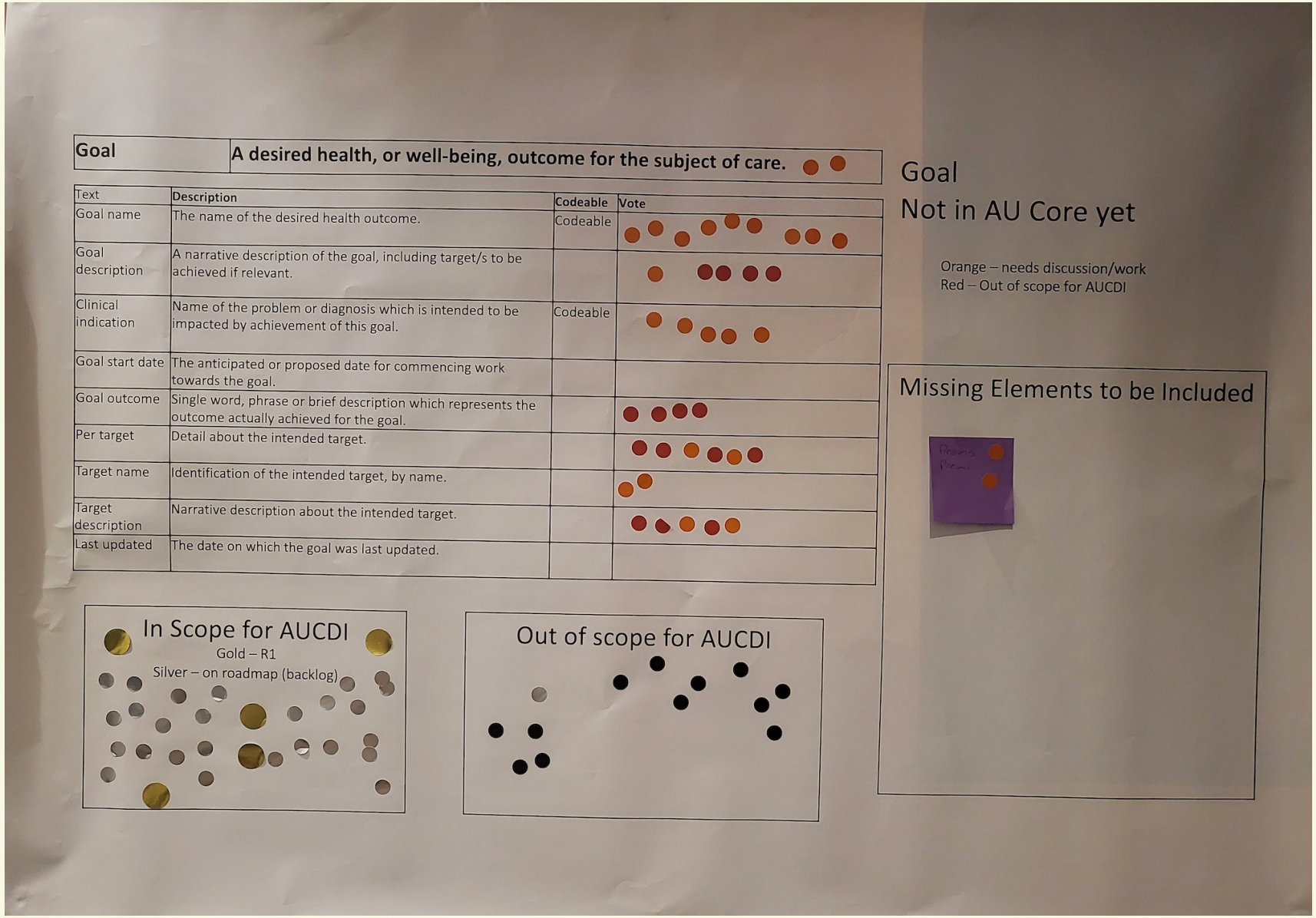
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

Results of voting activities



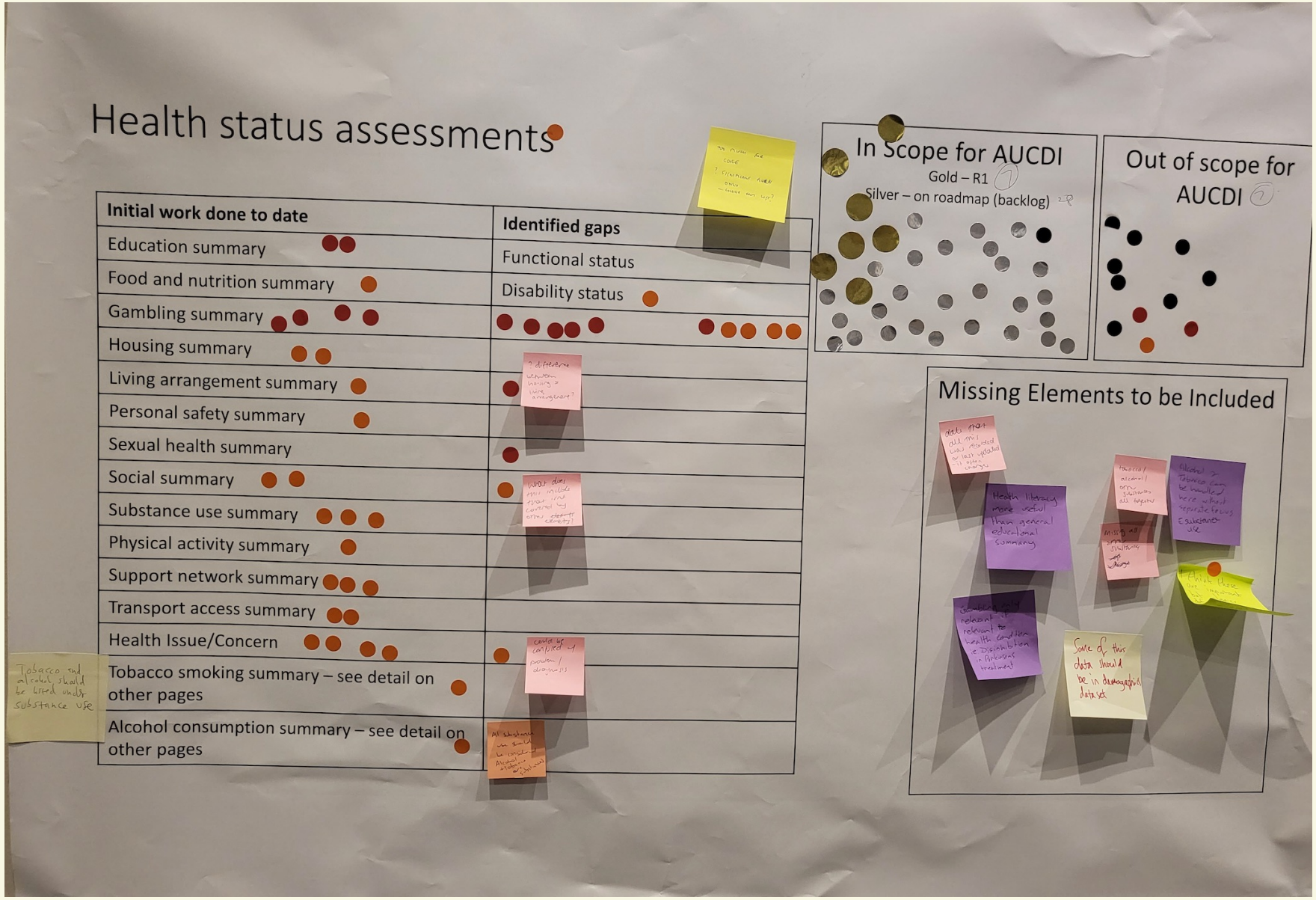
Goal	A desired health, or well-being, outcome for the subject of care.

Text	Description	Codeable	Vote
Goal name	The name of the desired health outcome.	Codeable	
Goal description	A narrative description of the goal, including target/s to be achieved if relevant.		
Clinical indication	Name of the problem or diagnosis which is intended to be impacted by achievement of this goal.	Codeable	
Goal start date	The anticipated or proposed date for commencing work towards the goal.		
Goal outcome	Single word, phrase or brief description which represents the outcome actually achieved for the goal.		
Per target	Detail about the intended target.		
Target name	Identification of the intended target, by name.		
Target description	Narrative description about the intended target.		
Last updated	The date on which the goal was last updated.		

Sparked HL7 FHIR

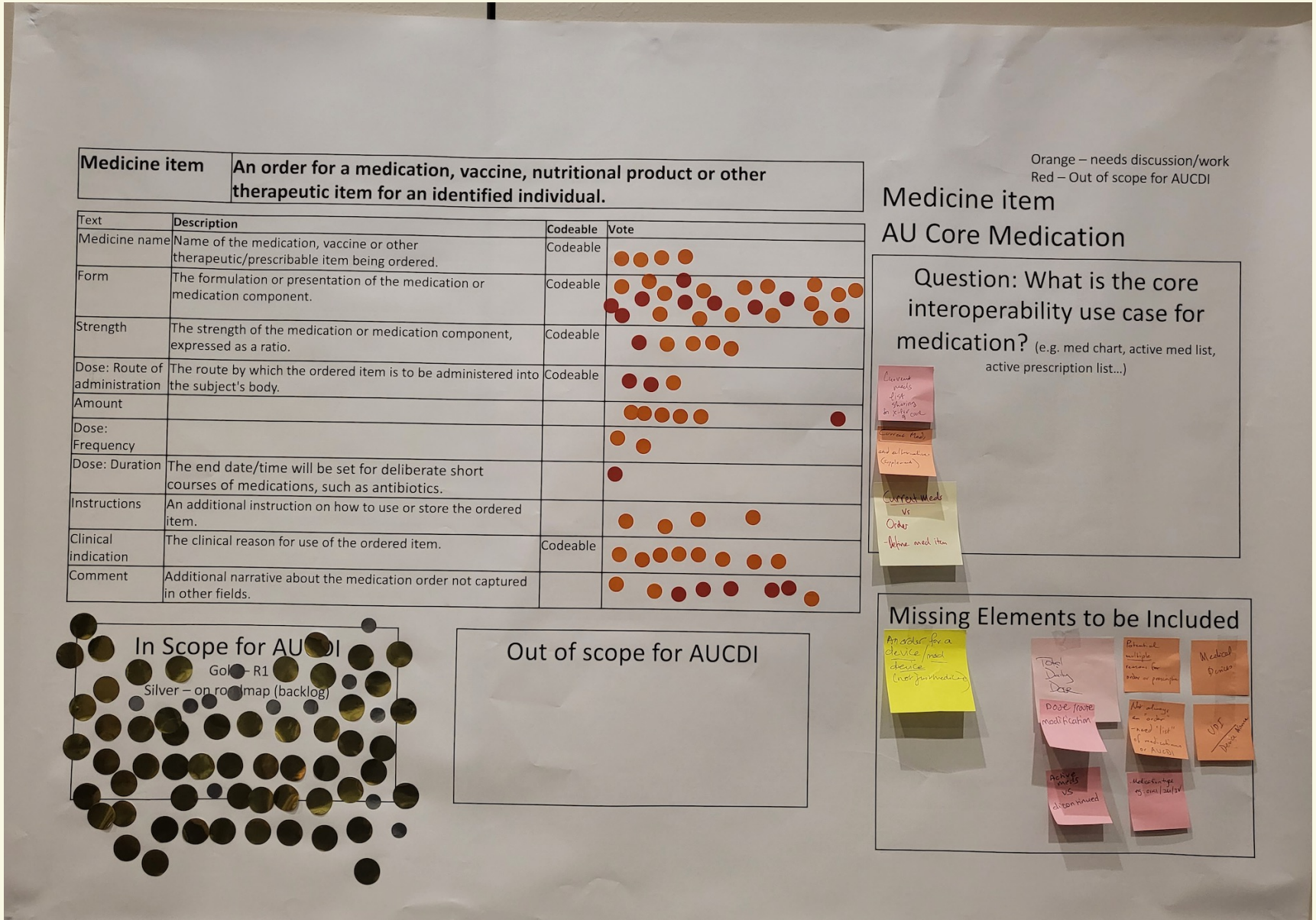
Activity done in workshop

Results of voting activities



Activity done in workshop

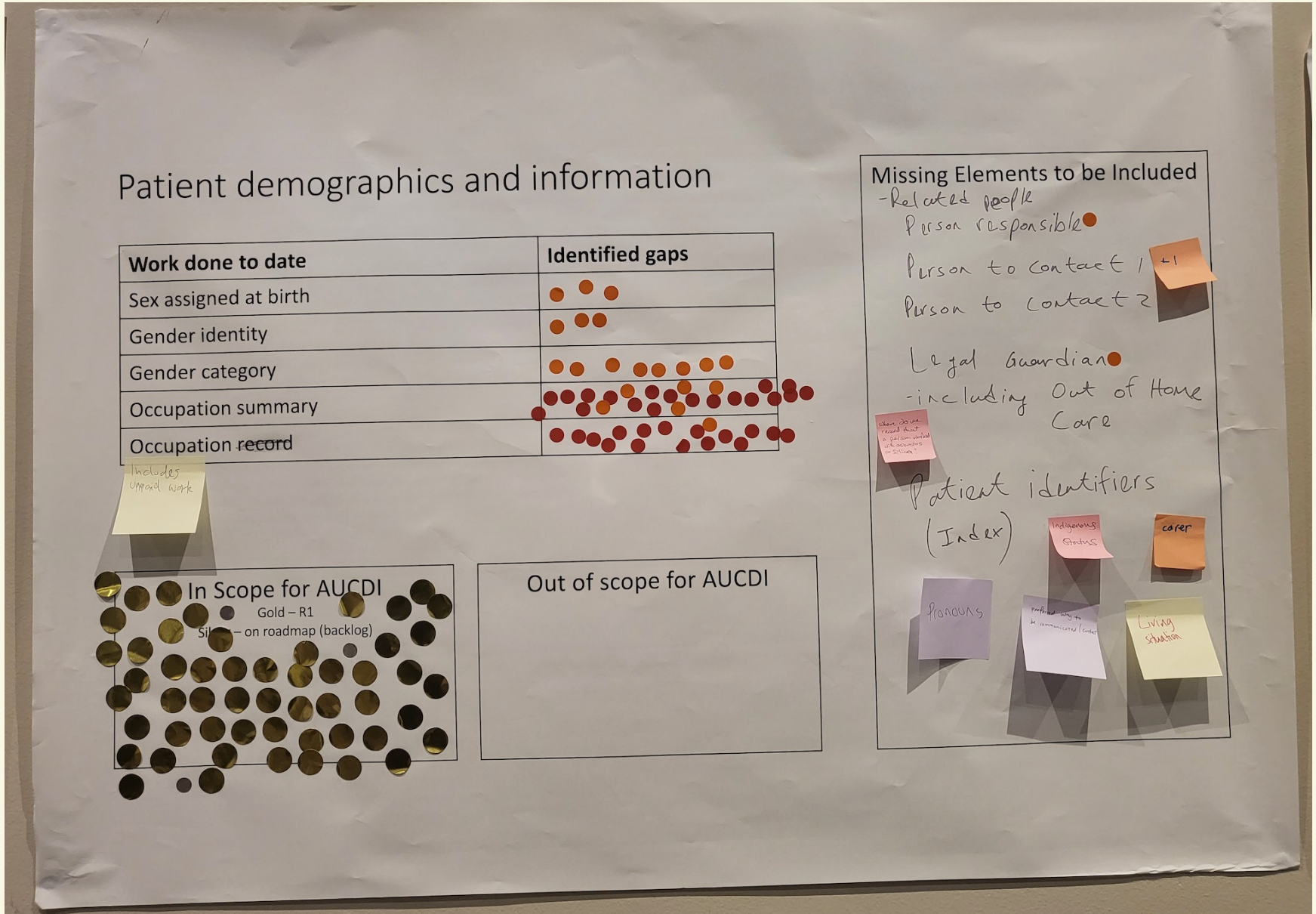
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

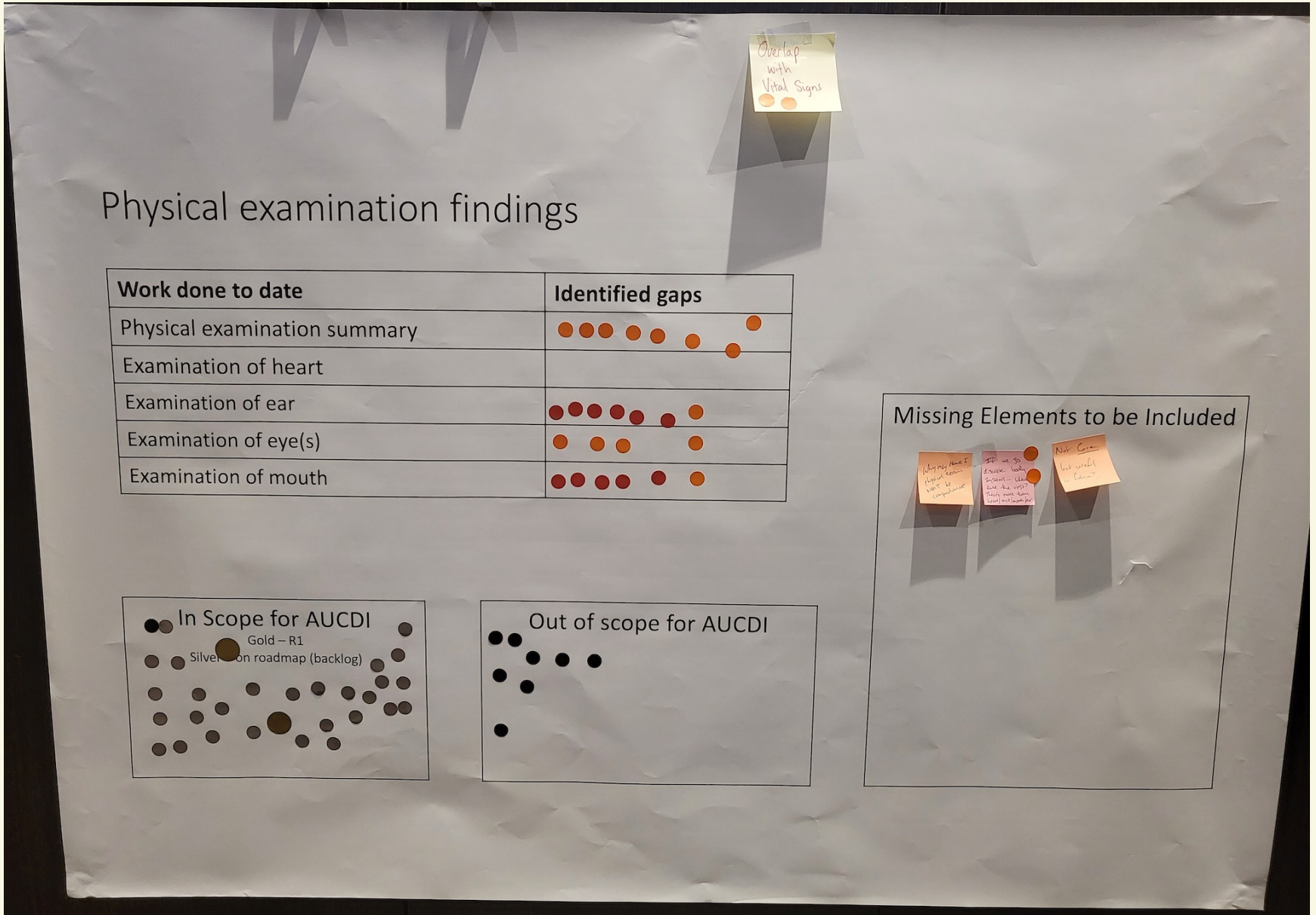
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

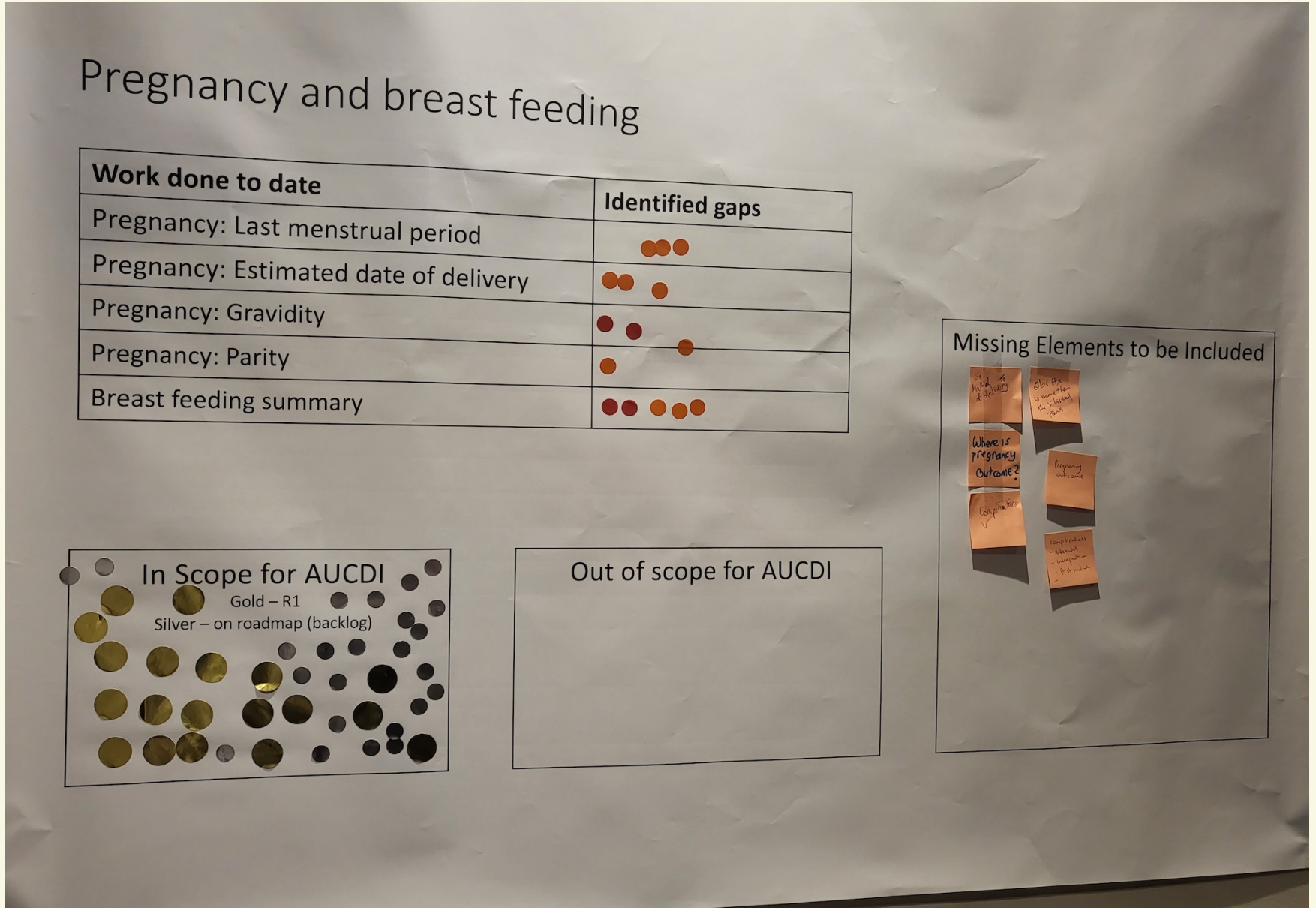
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

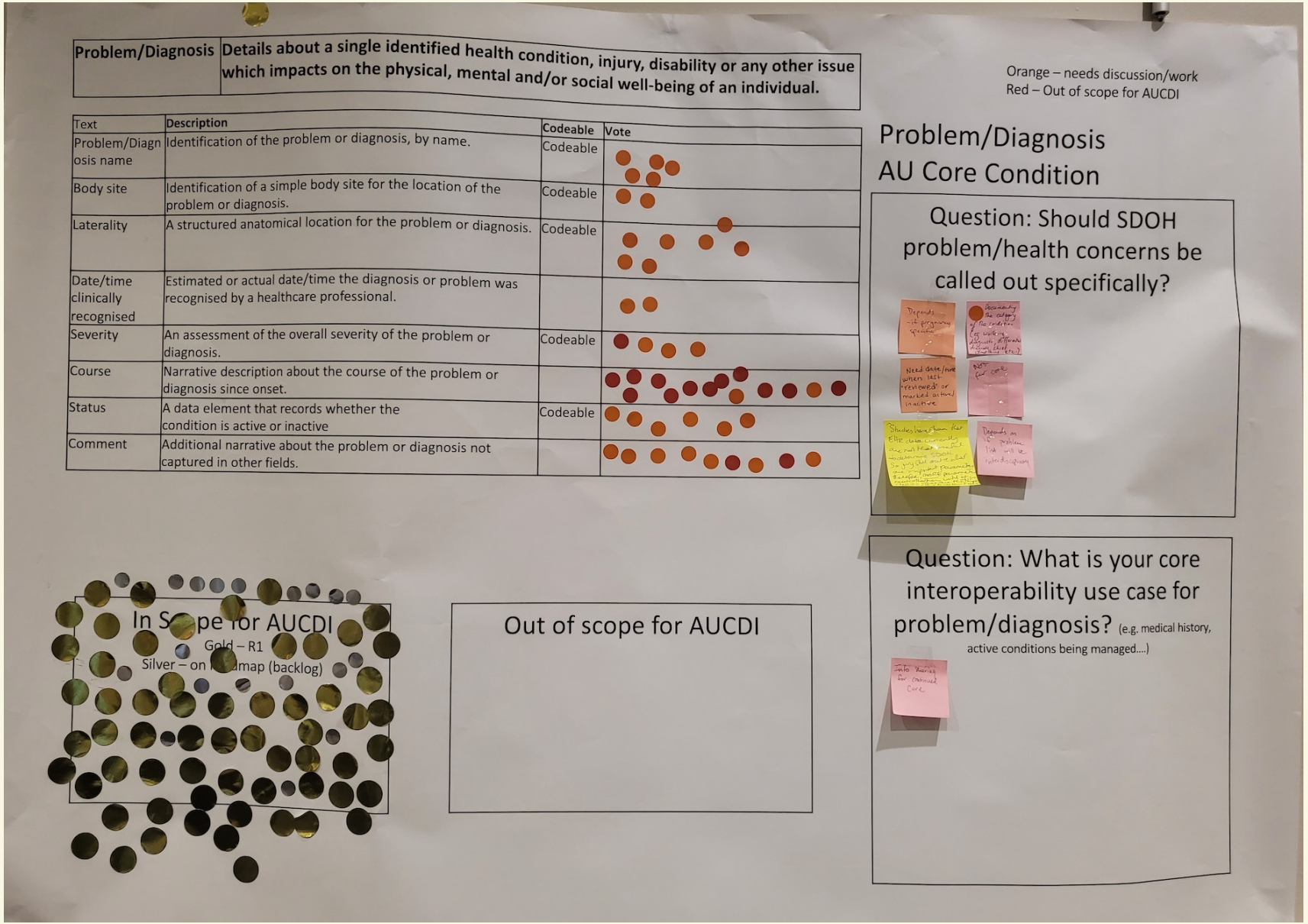
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

Results of voting activities



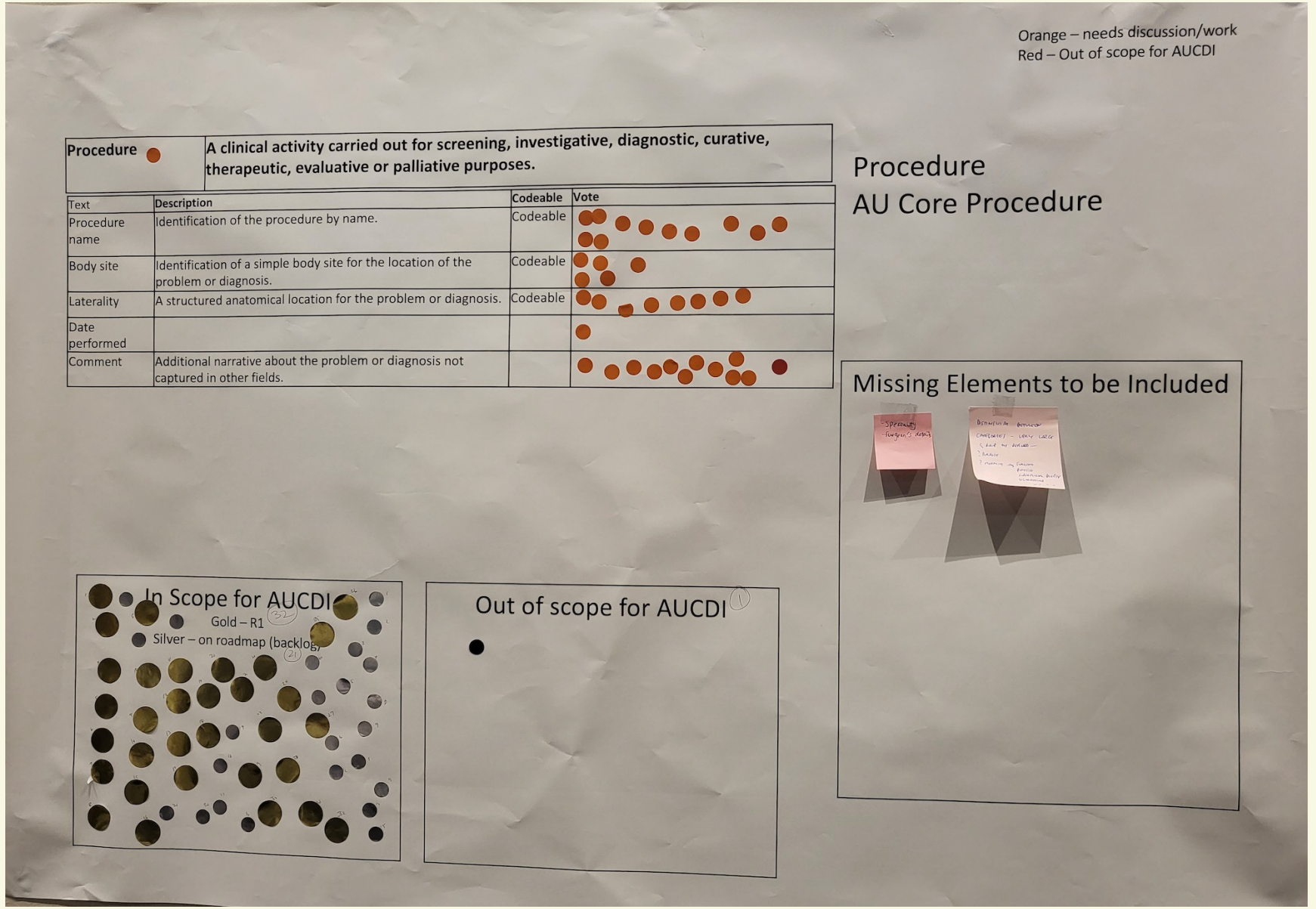
Problem/Diagnosis	Details about a single identified health condition, injury, disability or any other issue which impacts on the physical, mental and/or social well-being of an individual.

Text	Description	Codeable	Vote
Problem/Diagnosis name	Identification of the problem or diagnosis, by name.	Codeable	
Body site	Identification of a simple body site for the location of the problem or diagnosis.	Codeable	
Laterality	A structured anatomical location for the problem or diagnosis.	Codeable	
Date/time clinically recognised	Estimated or actual date/time the diagnosis or problem was recognised by a healthcare professional.		
Severity	An assessment of the overall severity of the problem or diagnosis.	Codeable	
Course	Narrative description about the course of the problem or diagnosis since onset.		
Status	A data element that records whether the condition is active or inactive	Codeable	
Comment	Additional narrative about the problem or diagnosis not captured in other fields.		

Sparked HL7 FHIR

Activity done in workshop

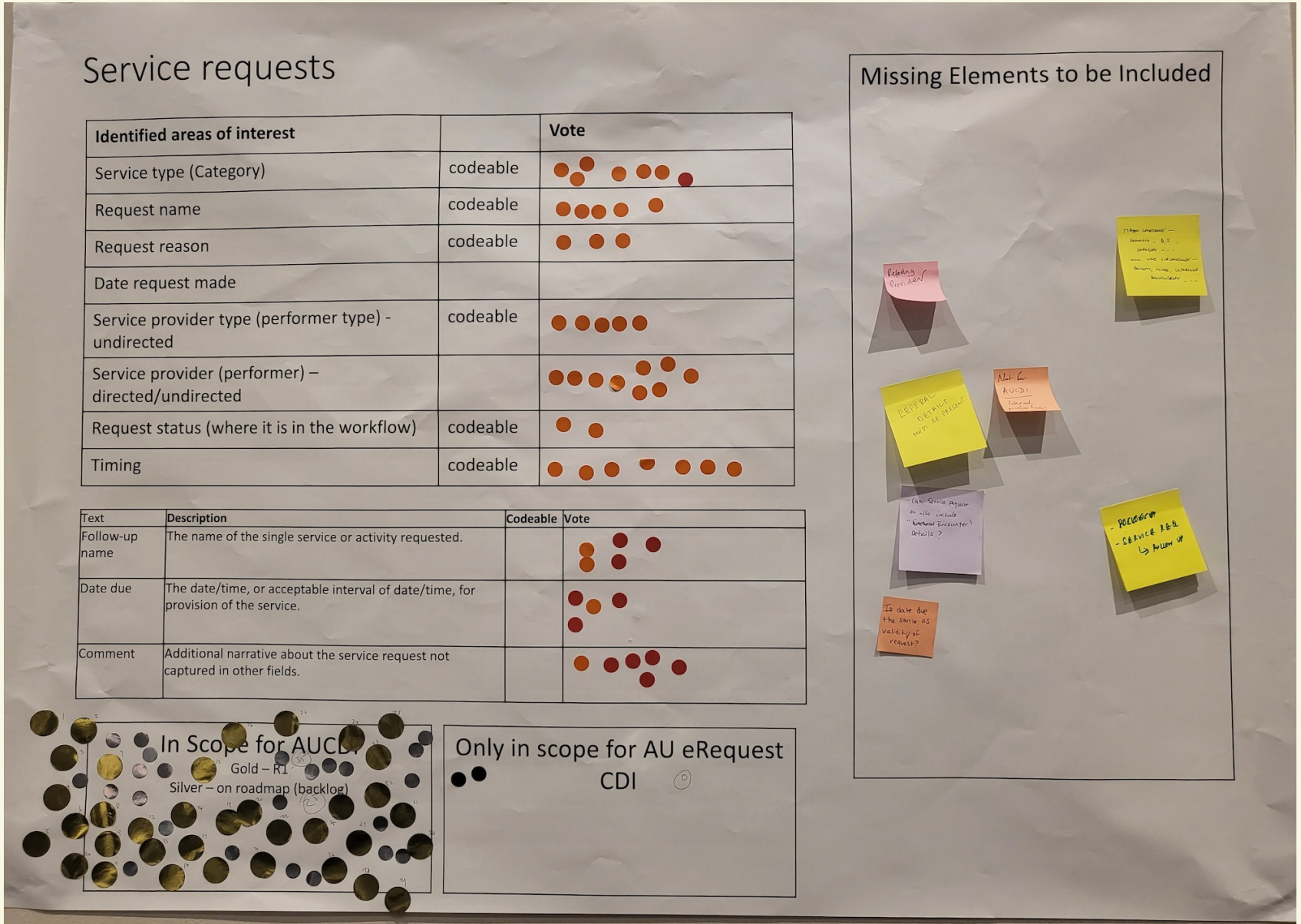
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

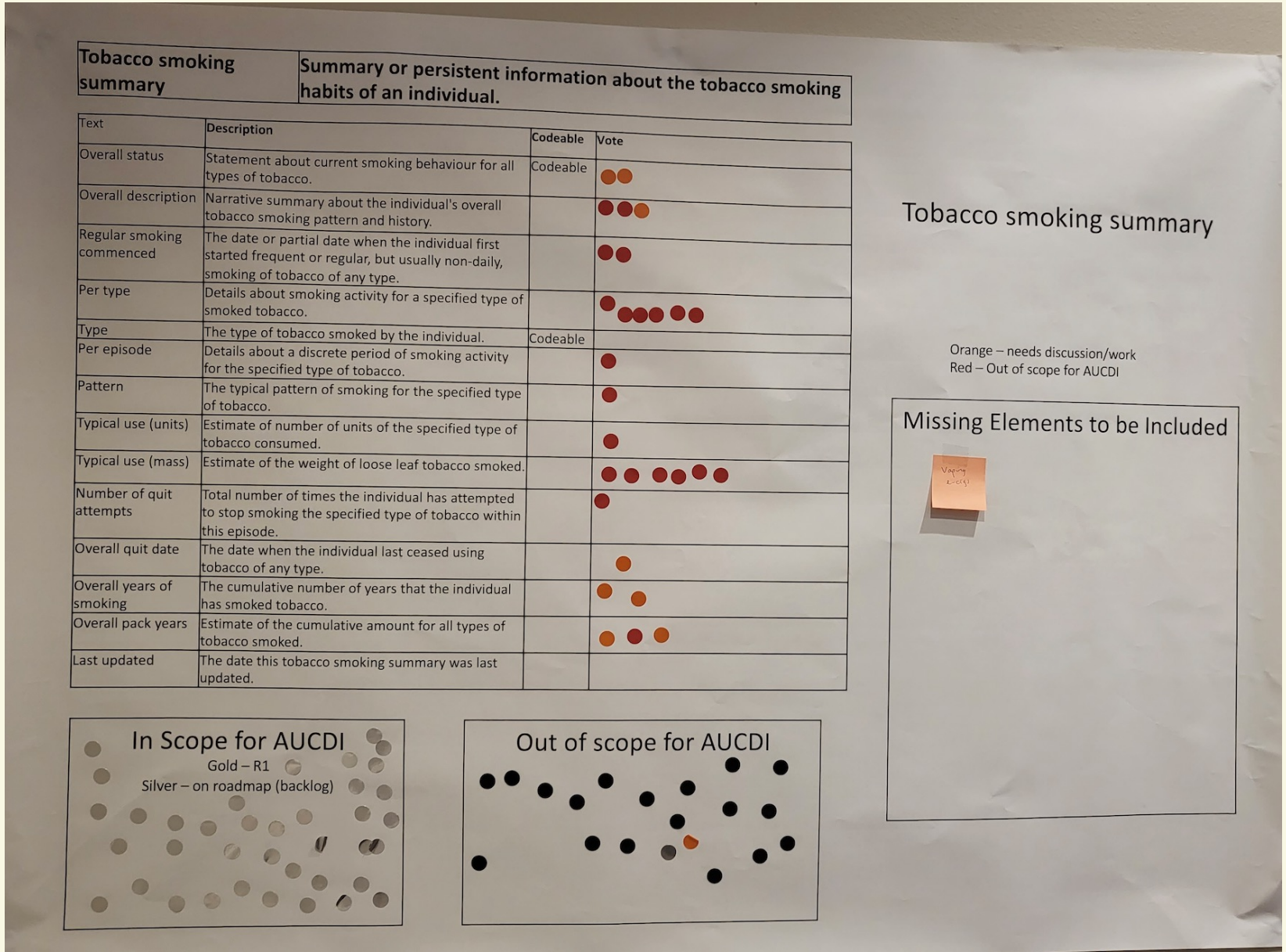
Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

Results of voting activities



Tobacco smoking summary	Summary or persistent information about the tobacco smoking habits of an individual.

Text	Description	Codeable	Vote
Overall status	Statement about current smoking behaviour for all types of tobacco.	Codeable	
Overall description	Narrative summary about the individual's overall tobacco smoking pattern and history.		
Regular smoking commenced	The date or partial date when the individual first started frequent or regular, but usually non-daily, smoking of tobacco of any type.		
Per type	Details about smoking activity for a specified type of smoked tobacco.		
Type	The type of tobacco smoked by the individual.	Codeable	
Per episode	Details about a discrete period of smoking activity for the specified type of tobacco.		
Pattern	The typical pattern of smoking for the specified type of tobacco.		
Typical use (units)	Estimate of number of units of the specified type of tobacco consumed.		
Typical use (mass)	Estimate of the weight of loose leaf tobacco smoked.		
Number of quit attempts	Total number of times the individual has attempted to stop smoking the specified type of tobacco within this episode.		
Overall quit date	The date when the individual last ceased using tobacco of any type.		
Overall years of smoking	The cumulative number of years that the individual has smoked tobacco.		
Overall pack years	Estimate of the cumulative amount for all types of tobacco smoked.		
Last updated	The date this tobacco smoking summary was last updated.		

Activity done in workshop

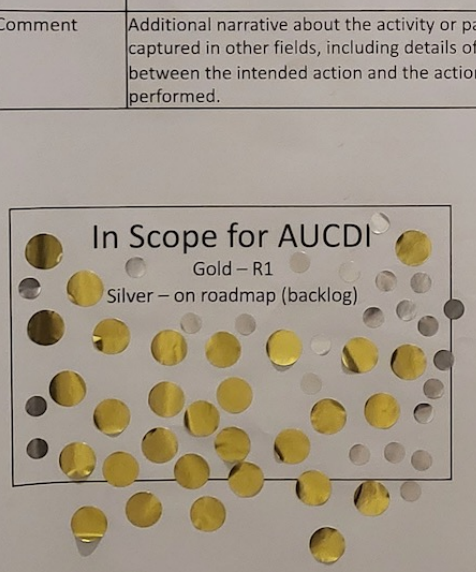
Results of voting activities

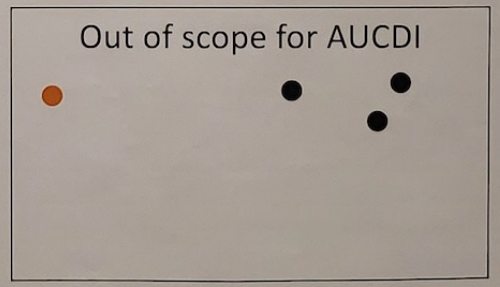
Vaccination	Any activity related to the planning, scheduling, prescription management, dispensing, administration, cessation and other use of a medication, vaccine, nutritional product or other therapeutic item.

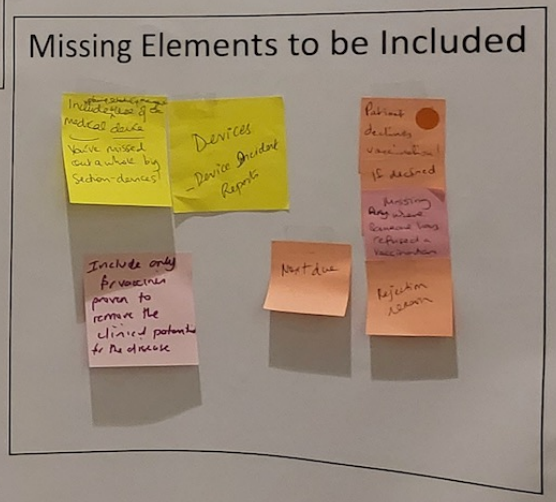
Text	Description	Codeable	Vote
Vaccine name	Name of the medication, vaccine or other therapeutic/prescribable item which was the focus of the activity.	Codeable	
Sequence	The sequence number specific to the pathway step being recorded.		
Administration date			
Comment	Additional narrative about the activity or pathway step not captured in other fields, including details of any variance between the intended action and the action actually performed.		

Vaccination
AU Core Immunization

Orange – needs discussion/work
Red – Out of scope for AUCDI



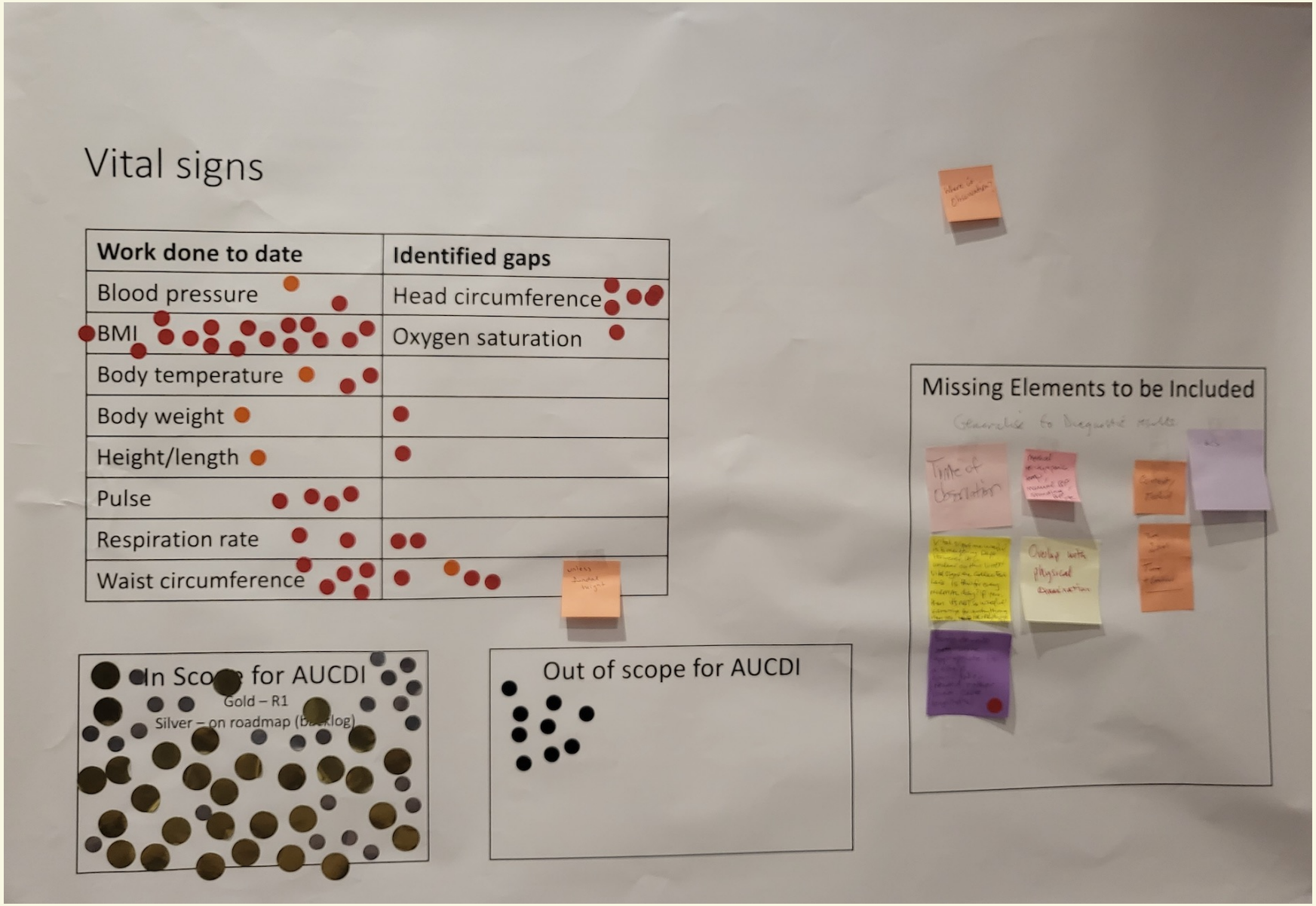




Sparked
HL7 FHIR

Activity done in workshop

Results of voting activities



Sparked HL7 FHIR

Activity done in workshop

Results of voting activities

Sparked HL7 FHIR

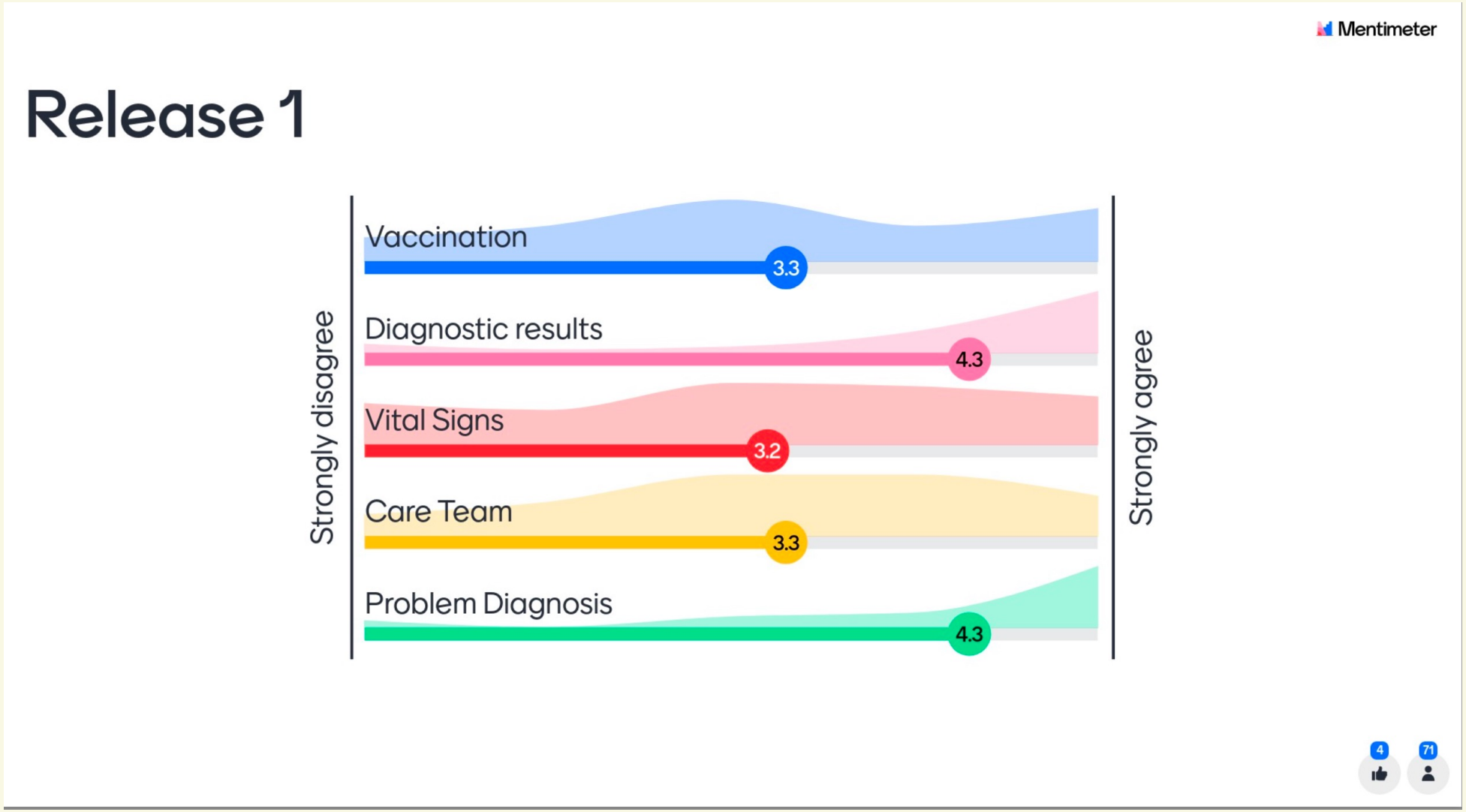
Activity done in workshop

Results of ranking of R1

Sparked HL7 FHIR

Activity done in workshop

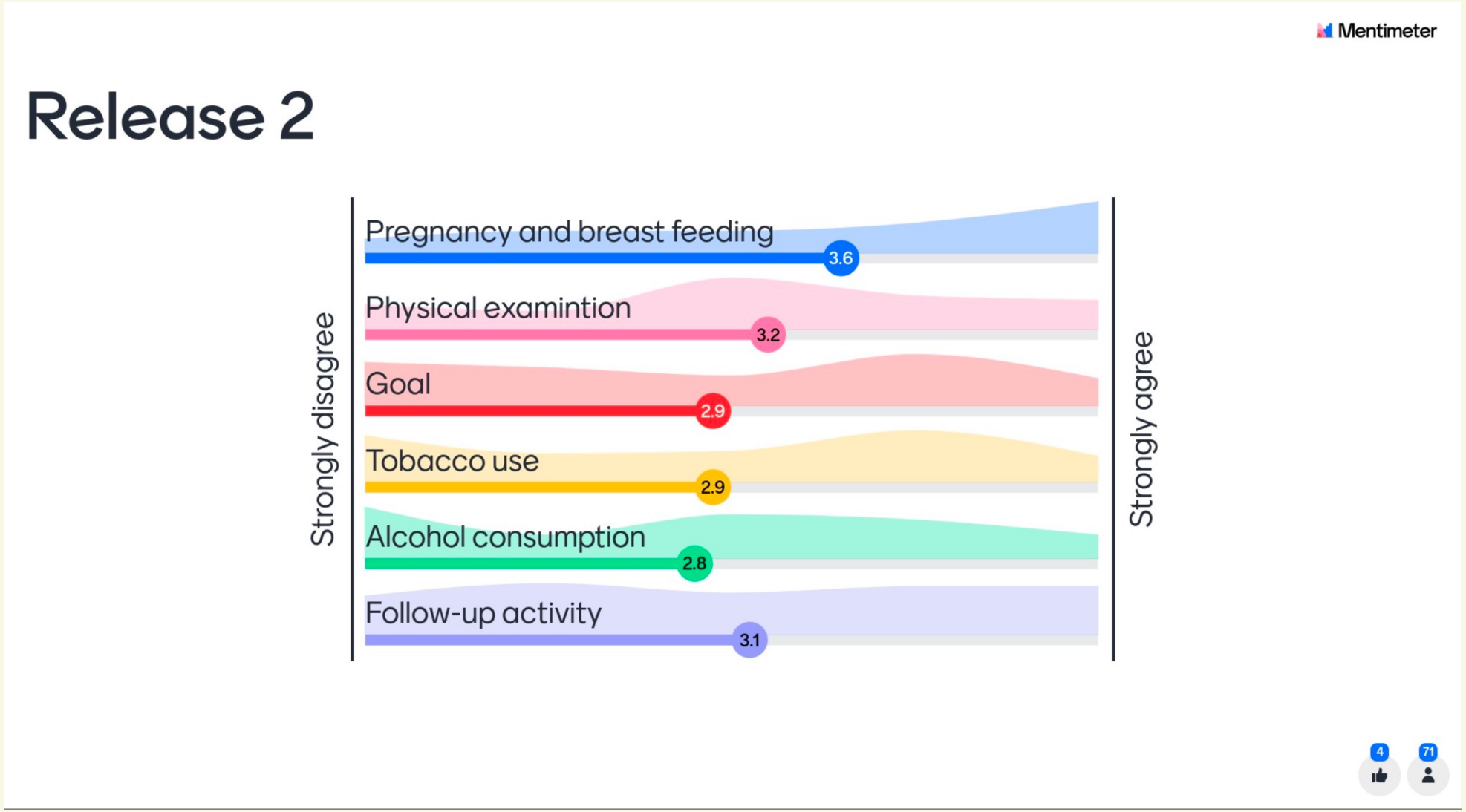
Results of ranking of R1



Sparked HL7 FHIR

Activity done in workshop

Results of ranking of R2



Sparked HL7 FHIR

Afternoon tea

Workshop activity Continued

Core Draft Principles of Data Set Design

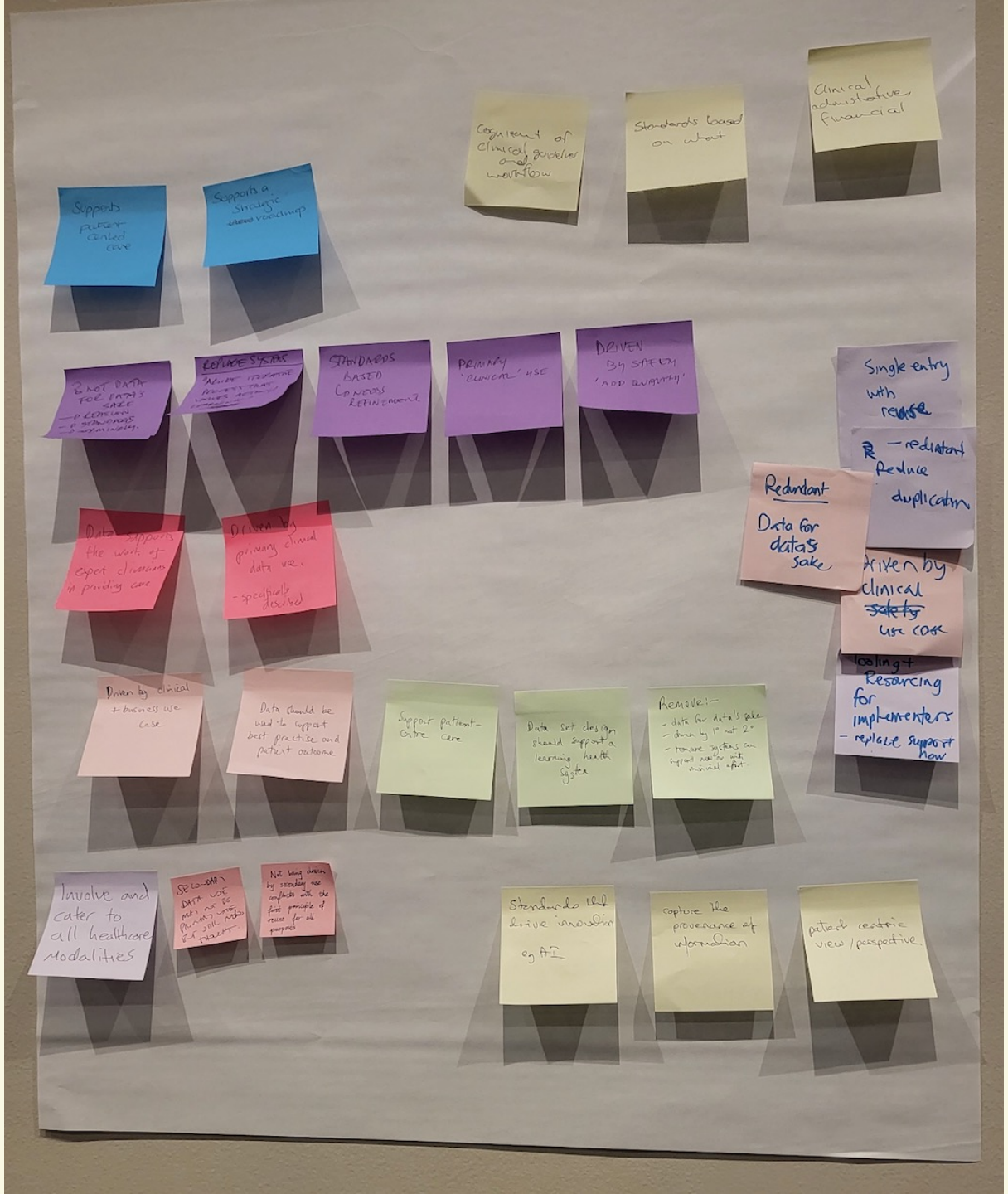
- Single entry, single development - multiple use and reuse
- Driven by a clinical safety use case
- Reduce duplication of effort
- Not data for data's sake
- Driven by primary use not secondary use needs
- Systems can support now or with minimal effort
- Standards based

Workshop Activity 4 – Ways of Working

- Looking at the draft design principles- as a group identify any additional principles that should be added
- Report Back

Activity done in workshop

Results of group activity



Sparked HL7 FHIR

Ways to Participate in AU FHIR Accelerator

Sparked
HL7 FHIR

Activity 5 Ways of Working

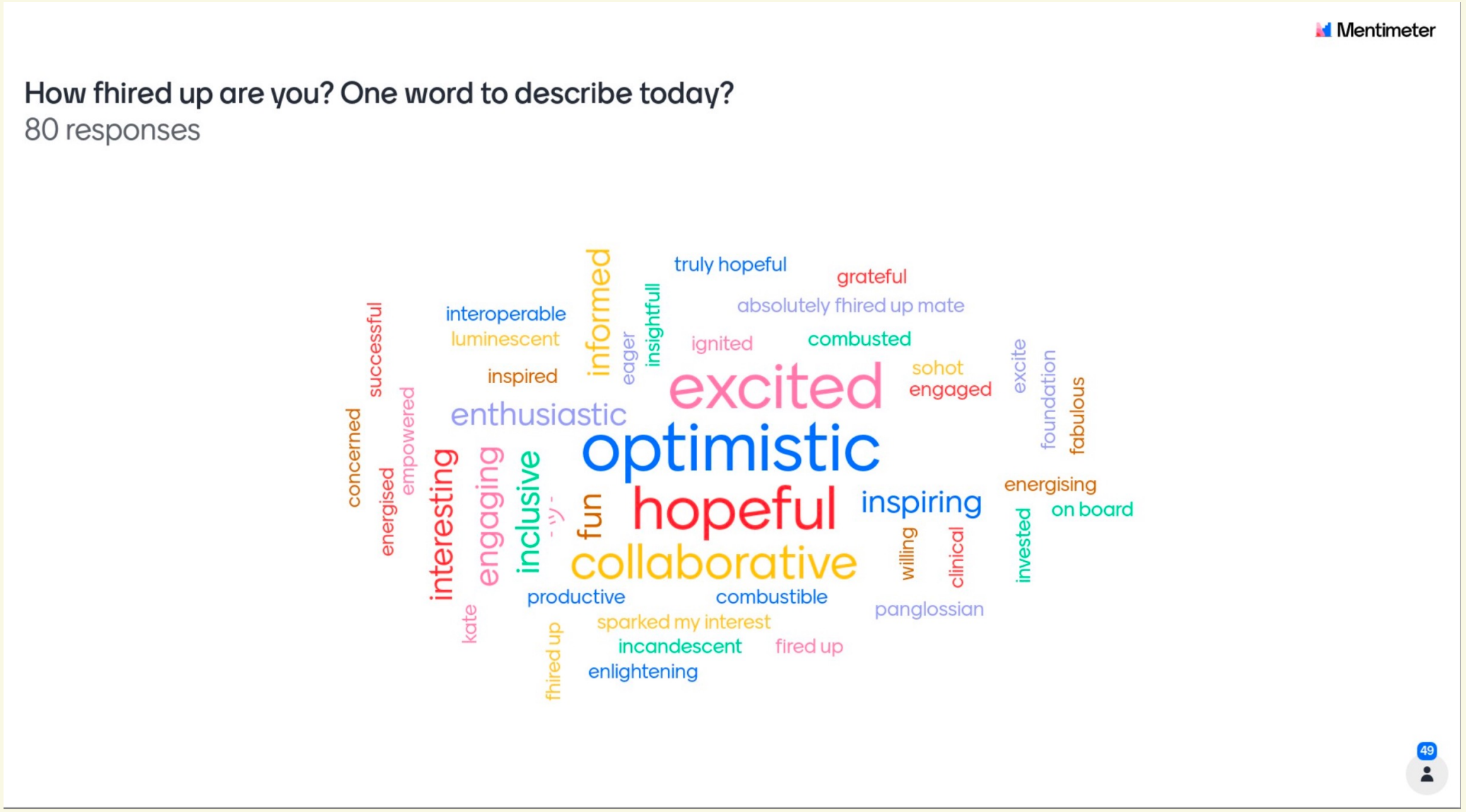
- In addition to the CCDG Face 2 Face and Monthly Calls- how do we ensure broad engagement and input
- Who is missing?
- What are other methods of seeking input and validation?

Did not complete this activity – audience requested to email thoughts and ideas to FHIR@csiro.au

Wrap up and reflections of the day

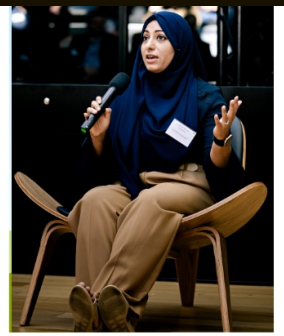
Menti activity

Activity done in workshop



Sparked HL7 FHIR


CSIRO
GREATEST HITS TOUR
AUSSIE INVENTIONS FOR THE WORLD
1953
1961
1984
1986
1988
1992
1996
1998
2001
2007




Acknowledgment


got FHIR questions?
ask me
>_
hi@beda.software


CB&Co